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ABSTRACT

Developed jointly by several professional organizations and government agencies, these national standards depict the essential skills, knowledge, and ability required of certified emergency medical technicians (EMT) to provide optimal prehospital care and transportation to the sick and injured. Topics covered include definitions of terms EMT's encounter often in work; entrance requirements for the EMT apprenticeship; how qualified applicants are selected for apprenticeship; length of apprenticeship; the agreement all trainees must sign; duties of a supervisor; probationary period; hours of work; how wages are determined; how the number of apprentices in a given program is determined; what type of work experiences will be encountered; an explanation of examinations concerning work, drill, and training records; the responsibility of apprentices; how instruction relates to grades and credit; grievance procedures; safety instruction; modification of standards; administration; training committees; consultants; and credit for previous experience. The appendixes comprise the bulk of the document and include the following: Appendix A contains performance objectives and a course content outline for EMT ambulance (EMT-A) apprenticeship; Appendix B contains performance objectives and outlines for course modules, clinical training, course content, and training program for EMT paramedic (EMT-P) apprenticeship; and Appendix C describes clinical and field internships. A list of state and regional apprenticeship agencies and training offices is also included. (CT)

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National Apprenticeship and Training Standards for Emergency Medical Technicians

U.S. Department of Labor
Ray Marshall, Secretary

Employment and Training Administration
Ernest G. Green
Assistant Secretary for Employment and Training
1978

ED163200

CE 018 490

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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STATEMENT OF POLICY

On and after the date of the signing of these national standards, it shall be the policy of the International Association of Fire Fighters, AFL-CIO, and the International Association of Fire Chiefs, Inc. to request all interested departments to employ and train emergency medical technician apprentices under programs of apprenticeship established in accordance with the terms of these standards, and to register the local programs and apprentices employed thereunder with the appropriate registration agency.

U.S. DEPARTMENT OF LABOR
EMPLOYMENT AND TRAINING ADMINISTRATION
WASHINGTON, D.C. 20213

August 8, 1977

Mr. W. H. McClennan
President
International Association of
Fire Fighters
1750 New York Avenue, N.W.
Washington, D.C. 20006

Mr. Myrle K. Wise
President
International Association of
Fire Chiefs
1329 18th Street, N.W.
Washington, D.C. 20036

Dear Presidents McClennan and Wise:

It is with great pleasure that I inform you that the National Apprenticeship Standards for the training of Emergency Medical Technician (Ambulance) and Emergency Medical Technician (Paramedic) have been registered as meeting the basic standards and policies of the Bureau of Apprenticeship and Training, Employment and Training Administration, United States Department of Labor.

The development of these national apprenticeship standards reflect the common interests and initiatives of the International Association of Fire Fighters and the International Association of Fire Chiefs in your goal of improving and expanding essential medical services to the local communities of the nation through your continued efforts to maintain the quality of apprenticeship for the training of Fire Fighters. You are to be commended for your joint efforts in this most important undertaking.

You may continue to count upon the cooperation and assistance of the Bureau of Apprenticeship and Training and the State apprenticeship agencies to achieve the training objectives of the National Apprenticeship and Training Standards.

Sincerely,

Hugh C. Murphy

HUGH C. MURPHY
Administrator
Bureau of Apprenticeship
and Training

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES ADMINISTRATION

July 21, 1977

BUREAU OF MEDICAL SERVICES
6323 BELCREST ROAD
WEST HYATTSVILLE, MARYLAND 20782

Mr. W. H. McClennan, President
International Association of
Fire Fighters
1750 New York Avenue, N.W.
Washington, D.C. 20006

Mr. Myrle K. Wise, President
International Association of
Fire Chiefs
1329-18th Street, N.W.
Washington, D.C. 20036

Dear Presidents McClennan and Wise:

Significant progress in reducing morbidity and mortality is being realized across the country with the development of regionalized emergency medical services systems. The National Apprenticeship and Training Program for firefighters to become EMT-Ambulance and EMT-Paramedics is a positive step forward which will help ensure that communities will have competent professional fire rescue and paramedic personnel responding immediately to medical emergencies. These well trained firefighter personnel are now and will in the future extend the delivery of medical practice to the streets and at the scene of emergency where life threatening conditions will be adequately treated without further injury or complication.

This new life saving role for firefighters as EMT-Ambulance and EMT-Paramedics will enhance the already existent community image for fire safety professionals. A well coordinated and medically directed emergency medical services program will necessarily involve integrating the heretofore separated roles of community public safety personnel and medical leaders. Only by medical and public safety cooperation will new horizons in the delivery of emergency medical care be achieved.

The International Association of Fire Chiefs and the International Association of Firefighters and their members are to be congratulated for their work in this area. After reviewing the proposed apprenticeship program for EMT-Ambulance and EMT-Paramedics, I am satisfied that the goals of the DHEW EMS program and the consensus of thought of national professional leaders in EMS is being addressed. I will continue to assist the IAFC/IAFF with the resources and expertise under my jurisdiction and enlist the support of EMS leaders of the developing regional programs across the country in order to successfully implement the apprenticeship program currently outlined.

Sincerely,

David R. Boyd, M.D.C.M.
Director, Division of
Emergency Medical Services

INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

1750 NEW YORK AVENUE, N.W., WASHINGTON, D.C. 20006
TELEPHONE NO. (202) 872-8484

William H. McClennan
President

Frank A. Palumbo
Secretary-Treasurer

August 3, 1977

TO: All United States Affiliates of the
International Association of Fire Fighters

Dear Sirs and Brothers:

In response to the pledge by President Carter to improve the nation's health services, the national efforts of the Department of Transportation to reduce the death and injury toll of traffic accidents, and the national initiatives of the Department of Health, Education and Welfare to provide optimal level emergency medical services systems, the IAFC and IAFF, with the assistance and cooperation of the Department of Labor, have developed, adopted and registered a National Apprenticeship and Training Standard for Emergency Medical Technicians. These standards establish criteria of performance, knowledge, training, and experience for assuring the development of truly professional Emergency Medical Technicians at both the basic and advanced life support levels.

I urge all Fire Fighters to work with their employers and their regional emergency medical agencies to extend and upgrade the nation's emergency medical services, and, where manpower and workload permit, to assume a major role in providing pre-hospital emergency care. Fire Fighters and Fire Chiefs should see to it that pre-hospital emergency care and transportation is properly recognized as a vital public service; because of the life-saving potential of this service, it deserves and should receive the same support and achieve the same status as fire and police protection.

In the imitial development of this program, I recommend that you avail yourselves of the services of the staff of the Bureau of Apprenticeship and Training and cooperating state apprenticeship agencies. I am sure they will offer every assistance in adapting this program to your local conditions.

Thanking you for your cooperation in this matter and wishing you success in this endeavor, I remain

Sincerely and fraternally,

W. H. McClennan
President

7

INTERNATIONAL ASSOCIATION OF FIRE CHIEFS • INCORPORATED

1329 18th STREET, N.W. • WASHINGTON, D.C. 20036

AREA CODE 202
833-3420

August 8, 1977

Dear Chief:

The Fire Services have long accepted the responsibility for the protection of life and property in our Nation's cities. They have pledged their efforts to improve, through training and education, the skills and knowledge necessary to serve their communities. To meet this challenge, the International Association of Fire Chiefs and the International Association of Fire Fighters, with the cooperation of the U.S. Department of Labor, have developed and registered a National Apprenticeship and Training Standard for Emergency Medical Technicians.

The concept of Emergency Medical Care within the Fire Service, provided by competent and experienced fire fighters trained in basic and advanced life support, is a positive step toward the assurance of quality pre-hospital care of the sick and injured. To assure the highest quality and delivery of pre-hospital care as a part of the community's health services system, the National Apprenticeship and Training Program for Emergency Medical Technicians will provide competent personnel trained and experienced in the delivery of pre-hospital care.

The International Association of Fire Chiefs endorses pre-hospital emergency medical care of the sick and injured as an appropriate function for the fire services. The International Association of Fire Chiefs encourages its members to participate in providing this vital service in their communities and to adopt the National Apprenticeship Program for Emergency Medical Technicians. The Association staff is available to assist you in this program.

The staff of the National Apprenticeship Program for Emergency Medical Technicians and the Bureau of Apprenticeship and Training, U.S. Department of Labor is available to assist you with the development and implementation of a local program for your fire department.

I offer you encouragement and the full support of the International Association of Fire Chiefs in your efforts.

Yours truly,

Myrle K. Wise

MYRLE K. WISE
President

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
WASHINGTON, D.C. 20590

July 27, 1977

IN REPLY REFER TO:
NTS-13

Mr. W. H. McClennan, President
International Association of
Fire Fighters
1750 New York Avenue, N.W.
Washington, D.C. 20006

Mr. Myrle K. Wise, President
International Association of
Fire Chiefs
1329-18th Street, N.W.
Washington, D.C. 20036

Dear Presidents McClennan and Wise:

The development of the emergency medical technician as a true professional has become recognized in the short span of eleven years. The ambulance services of the nation's fire departments have been a major factor in this accomplishment.

The U. S. Department of Transportation was charged by the passage of the Highway Safety Act of 1966 to develop standards to assist States in the development of programs to reduce death and disability due to traffic accidents. Standard 11 Emergency Medical Services was developed followed by national standards for training of ambulance and rescue personnel, the development of ambulance design criteria, and central dispatch communication systems. In 1966 approximately 48% of the ambulance personnel in the U. S. had less than the Advanced Red Cross training. Today approximately 80% of the ambulance personnel have been certified by their individual States as Basic EMT's and approximately 10,000 have been trained to the I.V. Tech., Coronary Care Tech., and EMT-Paramedic levels. It is estimated that 70% of all ambulance personnel operate out of fire stations.

The EMS staff of the Dept. of Transportation are pleased that the International Association of Fire Fighters and the International Association of Fire Chiefs have adopted the EMT training courses developed by DOT. We will assist your fine organization in every way possible in carrying out the objectives of the National Apprenticeship and Training Program for EMT-A and EMT-P.

Sincerely,

Robert E. Motley

Robert E. Motley
EMS Advisor

Approved and adopted this date for the International Association of Fire Chiefs and the International Association of Fire Fighters, AFL-CIO-CLC

Wyatt K. Wise

President
International Association of Fire Chiefs, Inc.

William H. McClennan

President
International Association of Fire Fighters, AFL-CIO-CLC

June 13, 1977

(Date)

Registered as incorporating the basic standards recommended by the Bureau of Apprenticeship and Training, Employment and Training Administration, U.S. Department of Labor

Robert C. Murphy

Administrator
Bureau of Apprenticeship and Training

N-91037 June 30, 1977

Registration Number Date

FOREWORD

These national apprenticeship and training standards for emergency medical technicians were developed jointly by the International Association of Fire Chiefs and the International Association of Fire Fighters with the cooperation and assistance of the National Highway Traffic Safety Administration, U.S. Department of Transportation; the Division of Emergency Medical Services, U.S. Department of Health, Education and Welfare; the Advanced Coronary Treatment (ACT) Foundation; and the Bureau of Apprenticeship and Training, U.S. Department of Labor.

The standards require the demonstration and retention of the essential skills, knowledge, and ability to provide optimal prehospital care and transportation to the sick and injured. EMT-A and EMT-P services are vital to the nation's health and safety and their optimal performance is a realistic and attainable goal.

The nation's fire fighters have been providing first aid and prehospital care to the nation's sick and injured for many years with a minimum of training and little or no recognition for this collateral service. Recent national awareness of the need to upgrade the emergency medical services has put new emphasis on this prehospital care and transportation. These national standards respond to national goals for improving the prehospital care and transportation components of the emergency medical services system.

As the professional fire fighters of the nation master the skill, knowledge, and ability required in the national standards, a substantial impact should be felt on the annual statistic of 100,000 deaths that occur because of inadequate or improper emergency medical care.

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PROVISIONS OF STANDARDS FOR APPRENTICESHIP OF EMERGENCY MEDICAL TECHNICIANS

1. Definitions

Certifying agency shall mean the State or local agency responsible for assuring that the EMT-A and the EMT-P are qualified to provide their respective levels of emergency medical service.

Department shall mean any fire department or similar agency that provides prehospital care and transportation services to a State, county, municipality or regional emergency medical district which subscribes to the terms and conditions prescribed by the national apprenticeship and training standards for emergency medical technicians and which provides the proper facilities and equipment to conduct such training.

DOT/EMT-A basic course shall mean a nationally accepted course for EMT-A instruction.

EMS shall mean emergency medical services.

EMT-A shall mean emergency medical technician-ambulance.

EMT-A apprentice shall mean the EMT-A or equivalent who must acquire the additional skills, knowledge, and ability required to become an EMT-P.

EMT-P shall mean emergency medical technician-paramedic.

EMT-P apprentice shall mean the EMT-A or equivalent who must acquire the additional skills, knowledge, and ability required to become an EMT-P.

Emergency medical service council shall mean the policy-making authority for local implementation of the emergency medical services system.

Emergency medical technician (EMT) shall include both levels of prehospital care and transportation personnel, i.e., EMT-A and EMT-P.

Local committee shall mean the local Joint IAFC/IAFF apprenticeship and training committee composed of equal representation from the department and the union, and a representative from the local EMS council.

National committee shall mean the Joint IAFC/IAFF

National Apprenticeship and Training Committee.

The National Registry of Emergency Medical Technicians shall mean a nationally recognized organization that conducts appropriate knowledge and skill examinations to certify emergency medical technicians.

Project medical director shall mean the EMS doctor responsible for administering EMT-P training programs.

Registration agency shall mean the Bureau of Apprenticeship and Training, Department of Labor, or State apprenticeship agency.

Related instruction shall mean the classroom instruction in the required skills and knowledge, but does not include field or clinical internship or repetitive skill training.

Resource hospital shall mean the hospital that accepts the major responsibility for training and supervising EMT-paramedics.

Union shall mean the local IAFF affiliate.

2. Qualifications for Application

An applicant to be selected for emergency medical technician apprenticeship must meet the established entrance requirements of the local department to which he/she applies.

An applicant for employment and training as an emergency medical technician apprentice must meet the minimum medical requirements of the department in which application is made.

The requirements for emergency medical technician apprenticeship will be uniformly applied to all applicants. The following are usually the minimum qualifications required of an applicant for employment and training for the emergency medical service:

1. A high school diploma or a State-recognized equivalent
2. At least 18 years of age
3. Good moral standards and character as evidenced by a thorough investigation and evaluation
4. Successful passing of physical examinations, written examinations, and oral interviews conducted by the department, Civil Service Commission, or other employing organization.

In addition to the above, the applicant for emergency medical technician-paramedic apprenticeship must (1) have

met State and national requirements for emergency medical technician—ambulance; (2) should be certified by the National Registry of Emergency Medical Technicians; (3) must have evidence of successful completion of the DOT/EMT-A basic course or its approved equivalent; (4) must have successfully completed an EMT-A apprenticeship or given satisfactory work performance for one or more years (2,000 hours) as an EMT-A; and (5) the applicant must meet any properly authorized requirements imposed by the local and/or State emergency medical council.

Applicants for EMT paramedic apprenticeship should be interviewed by the local JATC for evaluation of previous experience and training.

3. Selection

Qualified applicants will be selected for apprenticeship by the department on the basis of local civil service rules and regulations, local statutes, department regulations and other governing factors.

Each department establishing a local program of apprenticeship shall include as a part of the standards the following equal opportunity pledge:

> The recruitment, selection, employment, and training of apprentices during their apprenticeship shall be without discrimination because of race, color, religion, national origin, or sex. The department will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship programs as required under title 29 of the Code of Federal Regulations, part 30, or other applicable laws and lawful regulations issued thereafter.

As apprenticeship openings or vacancies occur, the department will notify the local civil service which will distribute and post announcements of such openings and where to apply, in public buildings, such as post offices, throughout the local community.

Public and private advertising of apprenticeship openings shall be made by the department through local advertising media to insure the development of interest in all groups to provide a supply of applicants.

4. Term of Apprenticeship

Emergency Medical Technician—Ambulance (EMT-A)

1. The term of apprenticeship for emergency medical technician-ambulance shall be not less than one year, including the required hours of related instruction.
2. Apprentices shall be subject to a probationary period, the length of which shall be stipulated in the local program.

Emergency Medical Technician—Paramedic (EMT-P)

1. The term of apprenticeship for emergency medical technician-paramedic shall be not less than three years, one of which shall be as an emergency medical technician-ambulance apprentice. Each year shall include not fewer than 144 hours of related instruction.
2. EMT-P apprentices shall be subject to a probationary period, the length of which shall be stipulated in the local program.

5. Apprenticeship Agreement[1]

1. Each apprentice employed and trained under local programs of apprenticeship shall be covered by a written apprenticeship agreement.
2. Each apprenticeship agreement entered into under local programs shall contain:
   a. Name and signature of apprentice and employing officer.
   b. Place and date of birth of the apprentice.
   c. Date the term of apprenticeship began and the length of the term.
   d. A statement making the terms and conditions of the local apprenticeship and training program a part of the apprenticeship agreement.
   e. Such other information as may be required by the registration agency.
3. Each apprenticeship agreement shall be registered with the appropriate registration agency.
4. An additional agreement may be required by the project medical director and/or the resource hospital.

[1]Some State apprenticeship agencies require the use of their own apprentice agreement forms. In such instances, the agreement forms may be obtained from the staffs of either the State apprenticeship agencies or the Bureau of Apprenticeship and Training, U.S. Department of Labor.

6. Supervision

Each department or other employing organization establishing a local program of apprenticeship shall designate a particular person as supervisor of apprentices.

Such apprentice supervisor shall make certain that apprentices are given the variety of required work and training assignments stated in the local program and shall maintain records of the progress of apprentices on both the technical and practical aspects of their employment and training

7. Probationary Period

1. Apprentices under local programs of apprenticeship shall be subject to a probationary period.
2. The length of the probationary period may vary by local programs of apprenticeship owing to various factors affected by provisions of the bargaining contract, local statutes, or departmental regulations.
3. During the probationary period, the termination or cancellation of an apprenticeship agreement may be made by the department, following regular personnel policies. After the probationary period, the department may cancel the agreement for due cause, such as lack of interest or progress, within the scope of the applicable rules of the local bargaining contract or provisions of the department's personnel regulations.
4. The registration agency shall be advised of all cancellations and terminations of apprenticeship agreements under local programs.
5. The Joint Apprenticeship and Training Committee may recommend termination or cancellation of the agreement for due cause.
6. The State or local emergency medical council may recommend termination or cancellation of an emergency medical technician-paramedic agreement for due cause, such as lack of interest or progress.

8 Hours of Work

It is recognized that hours of work vary greatly among EMTs. However, the work day and work week for apprentices and conditions associated therewith, shall generally be the same as that of EMT personnel doing comparable work for

that department. All such hours of work and conditions are subject to the terms of the local bargaining agreement and departmental regulations.

9. Compensation

Wages of EMT apprentices shall be shown in the local program, and shall be governed by the appropriate collective bargaining agreement, local statutes or ordinances affecting the department.

Wages shall be on a progressive basis, with step increases scheduled at 6-month intervals.

10. Ratio

Under local programs of apprenticeship, the ratio of apprentices to EMT personnel shall be determined by these factors: (1) department budget; (2) collective bargaining agreement; and (3) applicable ordinances and statutes.

The optimum ratio recommended for consideration for local programs where no previous criteria exist shall be as follows:

The number of apprentices in any one unit of a department shall not exceed 50 percent of the total number of EMTs assigned to that unit.

11. Work Experience

EMT-A apprentices under local programs of apprenticeship shall be trained in the use, care and effective handling of all equipment commonly used in connection with prehospital care and transportation of the sick and injured. During the term of apprenticeship, the apprentice shall be given the instruction and experience necessary to develop the skills and knowledge of emergency care and transportation, including basic life support techniques.

In addition to the learning and experience required of EMT-A apprentices, EMT-P apprentices shall be given the instruction and experience necessary to the skills for prehospital advanced life support techniques.

12. Examinations

The supervisor of apprentices, under local programs of apprenticeship, shall periodically examine the work, drill, and training records of the apprentice. Such examination and evaluation shall be conducted monthly and prior to completion of each period or at designated intervals stipulated in the local apprenticeships schedule. The work performance of EMT-P apprentices shall be reviewed and evaluated at stipulated intervals by representatives of the State or local emergency medical council, the supervisor of apprentices, JATC, and the project medical director.

Apprentices shall be required to maintain satisfactory progress, and if an apprentice fails to progress satisfactorily, the apprenticeship agreement may be cancelled.

13. Responsibilities of Apprentices

Department and other organizations employing and training apprentices under local programs shall impress upon apprentices that in signing the apprenticeship agreement, they have voluntarily agreed to abide by the provisions of the local program, and shall inform them of their responsibilities and obligations under the program.

1. To perform diligently and faithfully the duties as assigned by the department in accordance with the provisions of the standards, bargaining contract, applicable departmental regulations, and statutes.
2. To respect the property of the department and abide by the working rules and regulations of the department and the union.
3. To attend regularly and complete satisfactorily the required classes, drills, and instruction of related technical subjects as provided under the local program.
4. To develop safe work habits and to conduct themselves so in their work as to assure their own safety as well as that of their coworkers.
5. To conduct themselves at all times in a creditable, ethical, and moral manner, realizing that much time, money, and effort are being spent to give them the opportunity to become skilled emergency medical technicians.

14. Related Instruction

All apprentices will receive the technical and academic instruction necessary to develop skills in prehospital emergency care and transportation. All time spent by the apprentice attending related instruction classes shall be considered as hours of work. A minimum of 144 hours of such instruction (not including field or clinical internship) each year of the apprenticeship is required.

Should apprentices, without good cause, fail to fulfill their obligations to complete satisfactorily the related technical instruction and the work schedule, the department may suspend or revoke the apprenticeship agreement, subject to the provisions of the bargaining contract, departmental regulations, or statutes. The department shall notify the registration agency of such suspension or revocation and the reasons therefor.

15. Appeals

In cases of disagreement between the department and the apprentice over any provision of the local program, either party may consult with the registration agency for an interpretation or opinion on such matters coming within the scope of the apprenticeship and training program. Both parties may also avail themselves of the grievance procedure of the collective bargaining agreement or departmental regulations. In certain instances, such appeals will be covered by civil service regulations, statutes, or ordinances.

No provision of the local apprenticeship program shall be in conflict with the terms and conditions established in the collective bargaining agreement of department regulations. In the event of a conflict, the terms of the collective bargaining agreement or departmental regulations shall prevail.

16. Safety

Apprentices shall be provided with initial and continuous safety instruction to enable them to perform their duties in a safe manner.

The department will, at all times, exercise reasonable precautions for the health and safety of apprentices engaged in the performance of their duty.

17. Modification of Standards

The national apprenticeship and training standards may be modified at any time by the national committee. Such modification shall be submitted to the Bureau of Apprenticeship and Training, U.S. Department of Labor, for approval.

Before submitting any modification of standards to the Department of Labor for approval, the national committee shall consult with the Emergency Medical Services Branch, National Highway Traffic Safety Administration, U.S. Department of Transportation, and the Division of Emergency Medical Services, U.S. Department of Health, Education and Welfare.

Local programs of apprenticeship may be modified at any time by joint agreement of the department and union. Such modification shall be submitted to the appropriate registration agency for approval.

No modification or changes in the local program shall affect an apprenticeship agreement currently in effect without the consent of the apprentice.

18. Administration

These apprenticeship standards identify professional levels of competence required of apprentices and qualified EMTs. It specifically covers the requirements for entrance into the apprenticeship program and the levels of progression thereafter to the levels of journeyman EMT-A and EMT-P.

The purpose of these standards is to specify, in terms of performance objectives and apprenticeship needs, the minimum requirements for professional competence as an EMT-A and EMT-P.

It is not the intent of these standards to restrict any employee organization, EMS agency, resource hospital, or jurisdiction from establishing standards in excess of these minimal requirements.

All of the performance standards for any level of EMT shall meet the following criteria: Duties shall be performed promptly, safely, and with confidence. Each objective shall be met in its entirety.

It is not required that the objectives be mastered in the order in which they appear. The local program shall establish instructional priority and program content necessary for in-

dividuals to meet the performance objectives of these standards.

Performance of objectives for progression covered by these standards shall be evaluated by the local committee, the State or local emergency medical council, the supervisor of apprentices, and the project medical director.

When admitted to the apprenticeship program after fulfilling the entrance requirement for admission to the department, the individual is called an apprentice emergency medical technician-ambulance (EMT-A). The EMT-A shall meet all of the objectives of EMT-A before being certified at that level. EMT-A's apprenticed as EMT-P's shall meet all of the objectives of EMT-P before being certified at that level.

For the purposes of these standards the following definitions shall apply:

Safely—To perform the objective without injury to oneself or to others.

Competently—To possess the knowledge, skills, and judgment to perform indicated objectives satisfactorily.

Promptly—The time, as determined by the authority having jurisdiction, taken by an approved apprentice EMT to perform the objectives satisfactorily.

Demonstrate—To show by actual use or simulation.

Identify—To select, indicate, or explain verbally or in writing, using standard terms recognized by the EMS.

Objective—To demonstrate measurably a skill, knowledge, or both.

Qualification—To have satisfactorily completed the requirements of the objective.

19. Joint IAFC/IAFF National Apprenticeship and Training Committee

The Joint IAFC/IAFF National Apprenticeship and Training Committee shall review and certify local programs of apprenticeship and issue appropriate certificates of recognition. Such certificates may be withdrawn at any time by the national committee.

The national committee shall be composed of representatives selected by the International Association of Fire Chiefs and the International Association of Fire Fighters and appropriate representatives selected from the national medical

community who are actively involved in the emergency medical services.

The national committee shall be advisory in nature and shall constantly strive to improve the quality of the apprenticeship programs at the local and national level by the development of innovative ideas and procedures for inclusion in these standards. It shall meet semiannually and as needed and may request attendance of a representative from the Bureau of Apprenticeship and Training, U.S. Department of Labor, to serve as a consultant to the committee.

20. Local Joint Apprenticeship and Training Committee

In order to obtain maximum effectiveness in apprenticeship programs, local committees shall be established with equal representation from the local department and the local union and a representative of the local emergency medical council. Such local committees shall be certified by the national committee.

These local committees shall function in an advisory capacity with respect to the operation of the local program. Each local committee shall select a chairperson and a secretary. When the chairperson is a representative of the department, the secretary shall be a representative of the union and vice versa. The local committee shall determine the time and place of its meetings, and the chairperson and secretary shall vote on all questions.

The local committee shall recommend to the department, to the union, and to the national committee such minimum standards of training and experience for apprentices that it deems necessary. It shall also recommend, to the department and to the union, procedures designed to improve the operation of the local apprenticeship program. The local committee shall cooperate with the supervisor of apprentices in their responsibilities toward apprentices.

No recommendation for modification will be accepted that reduces or is contrary to these national standards.

The local committee shall hear differences pertaining to the apprenticeship program among apprentices, the department, and the union, and shall make recommendations as necessary for settlement.

21. Consultants

Consultants to the national committee may be a representative from the Bureau of Apprenticeship and Training, U.S. Department of Labor; the Emergency Medical Services Branch, National Highway Traffic Safety Administration, U.S. Department of Transportation; the National Registry for Emergency Medical Technicians; the Division of Emergency Medical Services, U.S. Department of Health, Education and Welfare; the Advanced Coronary Treatment (ACT) Foundation; and the National Association of Emergency Medical Technicians.

The consultants will attend national committee meetings only upon invitation from the committee and shall have no vote on issues under discussion and consideration at such meetings.

Consultants to local apprenticeship programs may be from the Bureau of Apprenticeship and Training, U.S. Department of Labor, State apprenticeship agencies, State and local departments of education, and State and local emergency medical committees or association. Such consultants shall attend committee meetings only upon request of the local committee and shall advise on problems affecting the agency they represent. They shall also provide assistance in improving the operation and administration of the program. Consultants shall have no vote on matters before the committee.

22. Credit for Previous Experience

An apprentice with previous experience or training as an EMT may, upon written request submitted to the department before the end of the first 30 calendar days of the term of apprenticeship, have such experience evaluated by the department. The department will submit the evaluation of such experience for each apprentice to the local committee which will make its recommendation to the department for approval, adjustment, or denial of the recommended credit. The department shall make every effort to conform to the recommendation of the local committee.

Claims for previous training and experience must be clearly documented, and apprentices who receive credit for previous experience will be subject to an appropriate probationary period for verification of their skills, knowledge, and ability.

If credit is awarded an apprentice for such previous experience, his wage scale shall reflect the credit given.

23. Work Experience and Training Standards

Emergency medical technician-ambulance apprentices will be required to complete satisfactorily the following:

1. All of the applicable knowledge and skill requirements listed in Appendix A and Appendix C.
2. The emergency medical technician basic course (DOT/NHTSA).
3. One year of on-the-job training as an EMT-A apprentice.

Emergency medical technician-paramedic apprentices will be required to complete satisfactorily the following:

1. All of the knowledge and skill requirements listed in appendix B and appendix C.
2. The national training course—emergency medical services-paramedic (DOT/NHTSA).
3. Two years of on-the-job training as an EMT-P apprentice.

24. Certificate of Completion of Apprenticeship

When an apprentice has satisfactorily completed all of the requirements of the local program, the department shall notify the registration agency and the national committee, and request that a certificate of completion of apprenticeship be issued for presentation to the apprentice.

APPENDIX A: EMERGENCY MEDICAL TECHNICIAN—AMBULANCE (EMT-A) APPRENTICESHIP

PERFORMANCE OBJECTIVES

Orientation of the Emergency Medical Technician

Identify the members of the emergency medical care team.
Describe a proper disaster plan for a community.
Describe the characteristics of a properly trained EMT.
List the responsibilities of an EMT.
Classify the capabilities necessary for an EMT to assume responsibility for the sick and injured.
Describe the qualities of character necessary for the EMT to cope with the emotional problems of the sick and injured.
Describe the proper management of relatives, bystanders, and passersby at the scene of the sick and injured.
Describe the correct handling of handicapped patients who are sick or injured.
Describe the difference between first aid and emergency medical care.
Identify the national organization responsible for the certification of emergency medical technicians.
Identify the medical identification symbol.
Demonstrate knowledge as to the size of the local emergency ambulance service, the scope of its operation, and the standard operational procedures.
Demonstrate knowledge of the local emergency ambulance service rules and regulations that apply to the position of EMT-A.
Demonstrate knowledge of the general fire behavior expected with each type of vehicle or building construction, including the spread of fire, and the safety of the occupants and the EMT crew.
Demonstrate assuming command of a prehospital medical emergency situation in the absence of a more qualified person.

Legal Responsibilities

Define the legal status of someone who acts as a Good Samaritan.

Define implied consent.
Define informed consent by the emergency patient.
Describe the legal duty of the emergency medical technician at the scene of an accident.
Describe the legal liability of the emergency medical technician.

General and Topographic Anatomy

Name the major parts of the body.
Identify the bony and soft-tissue landmarks.
Identify the quadrants of the abdomen.
Describe the major organs associated with the divisions or landmarks in the body.
Describe the relationship of the parts of the body, one to the other, using topographic terminology.
Describe the relationship of injured structures to uninjured structures.
Identify the arterial pressure points.

Interpretation of Diagnostic Signs and Triage

List the normal diagnostic signs.
Identify abnormalities in diagnostic signs.
Describe the relationship of changes in vital signs to patient problems.
Describe the procedures for determining and recording all vital diagnostic data.
State the importance of accuracy in measuring and recording diagnostic data.
Explain the importance of discriminating among various types of injuries to determine the sequence of treatment.
Describe the principles of triage.
Given a victim, demonstrate a primary survey for life-threatening injuries.
Given specified situations, identify what injuries might be suspected from observation of the injury-producing mechanisms in addition to those injuries that are obvious.
Given a victim, conduct a secondary survey for other than life-threatening injuries.
Demonstrate the proper method for taking a patient's blood pressure and recording the results.

Respiratory System

Define the boundaries of the thoracic cavity.
Describe the contents of the thoracic cavity.
Name and locate the organs of the body involved in normal respiration.
Describe the upper and lower airways.
Describe the purpose of the respiratory system.
Describe how the blood circulates in the respiratory system.
Name and locate the major parts of the lung.
Locate and describe the larynx.
Locate and describe the trachea.
Describe the thoracic cage.
Describe the mechanism by which air moves in and out of the lungs.
Describe the pleura.
Describe how breathing is controlled.

Injuries of the Chest

Identify the two classes of chest injuries.
Define the significant terms associated with chest injuries.
Describe how chest injuries may occur and explain why they are of major importance.
List the important signs of a chest injury.
Describe the general principles of care for chest injuries.
Describe the management of various types of closed chest injuries.
Describe the management of various types of open chest injuries.

Circulatory System

List the component portions of the cardiovascular system.
Describe the functions of the parts of the cardiovascular system.
Name, in order, the types of vessels through which blood cells pass after leaving the heart until they return to the heart.
Identify the components of normal blood.
Describe the functions of each of the types of cells and components in blood.
Describe the exchange of nutrients and oxygen in the tissues.
Describe the exchange of oxygen and carbon dioxide in the lungs.

Define the terms: pulse, blood pressure, and venous pressure and identify the normal reading for each.
State the approximate volume of blood for infants, children, and adults.
Describe how the circulatory system adjusts to changes imposed on it.

Bleeding and Control of Bleeding

Identify the characteristics of bleeding from arteries, veins, and capillaries.
Describe the signs by which internal hemorrhage may be recognized.
Describe the process by which bleeding normally stops in the human body.
Compare the means available for controlling internal and external hemorrhage.
Describe the dangers of improperly used tourniquets.
State the amount of blood loss that can be sustained by infants, children, or adults without developing shock.
Describe the effects of internal bleeding.
Demonstrate techniques for controlling external bleeding of the head and torso.
Demonstrate caring for a person with known or suspected internal bleeding.

Shock

Recognize the signs and symptoms of shock.
Describe the physiology of shock.
Describe the principles of general care for patients in shock.
Describe the procedures for preventing shock.
List the steps in administering intravenous fluids.
Explain the role of intravenous fluid therapy in the treatment of shock.
Demonstrate the general care and treatment of shock.

Basic Life Support

Define basic life support.
Describe the general state of a patient needing basic life support.
Describe the circumstances under which CPR is terminated.
Describe the steps in beginning artificial ventilation.

Describe the head-tilt maneuver.
List the steps in the jaw-thrust maneuver.
Recognize and describe the care of the patient with an airway obstruction.
Describe care of the airway in a patient with spinal injuries.
Describe mouth-to-mouth ventilation and its problems.
Describe the special cases where mouth-to-mouth techniques are not appropriate.
Describe the technique of closed-chest compression.
Describe resuscitation techniques by two people and by one person.
Describe the differences in resuscitation for children.
Describe the precordial thump.
List the indications for and advantages of the use of supplemental oxygen in CPR.
List the risks of oxygen therapy.
Describe mouth-to-mask breathing techniques.
Describe bag-valve-mask breathing techniques.
List the types of artificial airways and their uses.
Describe the techniques of oropharyngeal and nasopharyngeal suctioning.
Demonstrate procedures for determining whether or not a victim has an open airway.
Demonstrate the heart-lung-brain relationship as it affects life and explain what occurs when an airway obstruction is not corrected.
Demonstrate on a manikin the techniques for opening an airway obstructed by the tongue for patients with and without suspected spine injuries.
Demonstrate on a manikin use of blows to dislodge foreign objects from the airway for patients with and without suspected spine injuries.
Demonstrate on an upright and supine manikin the abdominal and chest thrust methods for dislodging foreign objects from the airway.
Demonstrate on an adult manikin the mouth-to-mouth and mouth-to-nose techniques of pulmonary resuscitation.
Demonstrate on an infant manikin the mouth/nose technique of pulmonary resuscitation.
Demonstrate on a manikin the use of oropharyngeal and nasopharyngeal suctioning equipment.
Demonstrate on an adult manikin the one- and two-person

techniques of administering cardio pulmonary resuscitation.
Demonstrate on an infant manikin the one- and two-person techniques of administering cardio pulmonary resuscitation.

Oxygen Therapy and Equipment

Define hypoxia and describe its consequences.
Match the types and causes of hypoxia.
Identify the characteristics of patients needing oxygen therapy.
List the types, functions, and safety features of oxygen therapy equipment.
Point out the hazards of oxygen therapy.
Explain the need for humidification of oxygen.
Demonstrate on an adult manikin the use of breathing aid equipment carried in the ambulance, and explain the precautions of care and maintenance of each unit.

The Skin

Identify the layers of the skin.
Define the functions of the skin.
Identify the organs and structures contained within the skin.

Muscular System

Identify the locations and describe the characteristics and functions of the voluntary muscles.
Identify the locations and describe the characteristics and functions of the involuntary muscles.
Define the term cardiac muscle and describe its function.
Explain the function of muscle attachments to bones or other muscles.
Describe the process of peristalsis.

Soft-Tissue Injuries

Discriminate between open and closed soft-tissue injuries.
Identify the types of open and closed soft-tissue injuries.
Describe the development of ecchymoses and hematomas.
Describe the treatment of closed soft-tissue wounds.
Describe the treatment of open soft-tissue wounds.

Describe the treatment of impaled foreign objects.
Demonstrate the proper procedure for dressing and bandaging open wounds of the arm/leg, elbow/knee, forehead/scalp, neck, shoulder and hand/foot.
Demonstrate the immobilization and management of an impaled foreign object.

The Skeletal System

Define a bone.
Define a joint.
Describe the characteristics of each of the following components of the skeletal system: spinal column, skull, thorax, upper extremities, pelvis, and lower extremities.
Name the protective functions of the skeletal system.
Label the parts in a drawing of the anatomy of the bones and joints.

Fractures, Dislocations, and Sprains

List the causes of fractures and dislocations.
Describe the characteristics of fractures.
List the signs of dislocations.
Describe the characteristics of dislocations.
List the differences between open and closed fractures and dislocations.
Describe the proper examination of a suspected fracture or dislocation.
Explain the importance of evaluation and proper care of fractures and dislocations.
Demonstrate the proper examination of a suspected fracture or dislocation.

General Principles of Splinting and Bandaging

Explain the reasons for splinting fractures.
State the general rules of splinting.
Name the types of splints and describe the methods of their application.
Explain the main functions of bandages and dressings.
Describe the method used to stop severe bleeding in an extremity.
Demonstrate the methods of controlling external bleeding in an extremity including the use of a tourniquet.

Demonstrate the use of all types of splints carried in the ambulance.

Fractures and Dislocations of the Shoulder and Upper Extremity

Name the mechanisms of injury in fractures and dislocations of the shoulder and upper extremity.
Describe the most common signs and symptoms of fractures and dislocations of the shoulder and upper extremity.
Describe the treatment of fractures and dislocations of the shoulder and upper extremity.
Given specified situations, select the equipment for, and demonstrate the method of, immobolizing dislocations of the shoulder, elbow, wrist and fingers.
Given specified situations, select the equipment for, and demonstrate the immobilization and management of, open and closed fractures of the clavical, scapula, humerus, elbow, forearm, wrist and hand.

Fractures and Dislocations of the Hip, Pelvis, and Lower Extremity

Explain how to diagnose a fracture of the pelvis.
Describe the treatment and list the complications of fractures of the pelvis.
List the types of dislocations of the hip and their treatment.
List the types of fractures of the hip and their treatment.
Describe the treatment of fractures of the femur.
List the types of injuries of the knee.
List the types of fractures of the knee.
List the complications of fractures and dislocations of the knee and their treatment.
Describe the treatment of fractures of the tibia and fibula.
Describe the treatment of fractures of the foot and ankle.
Given specified situations, select the equipment for, and demonstrate the method of, immobilizing dislocations of the hip, knee, patella and ankle.
Given specified situations, select the equipment for, and demonstrate the immobilization and management of, open and closed fractures of the pelvis, hip, femur, knee, tibia, fibula, ankle, and foot.

Fractures and Dislocations of the Spine

Describe how the spine is formed and its function.
Describe the effects of a fracture or a dislocation of the spine.
Name the types of trauma most likely to produce spinal injuries.
Describe signs and symptoms of spinal injuries and methods of determining their significance.
List the rules for proper initial care of a patient with spinal injuries.
Identify special problems in resuscitating the patient with a spinal injury.
Describe under what conditions a patient with spinal injury may be repositioned.
Describe how to provide emergency care and remove someone safely from the water after sustaining possible injury in a diving accident.
Using an anatomical reference, identify the five sections of the spine.
Demonstrate the proper method of immobilizing and managing a patient with a fractured or dislocated spine.

The Nervous System

Identify all the structures of the nervous system and its divisions.
Describe the functions of the central nervous system, cerebrum, cerebellum, brain stem, and spinal cord.
Describe the functions of the autonomic nervous system.
Describe the functions of nerve cells.

Injuries of the Skull and Brain

Describe the signs of head, brain, and spinal injuries.
Identify the types of skull fractures.
Describe physiological characteristics of brain injury.
Describe the examination procedures for head and brain injuries.
Describe the procedures for treatment of head and brain injuries.

The Eye

Explain the process of "seeing."
Name the specific anatomical structures of the eye.

Describe the specific functions of the eye structures.
Describe pupil reaction and the neurologic significance of this reaction.

Injuries of the Eye, Face, and Throat

Explain the diagnosis and treatment of lacerations and contusions of the eye.
Describe the treatment for an extruded eyeball.
Explain the relationship of eyeglasses and contact lenses to injuries of the eyes.
State the signficant aspects of treatment of blunt trauma of the eye.
Describe the diagnosis and treatment of the types of burns that can affect the eyes.
State the condition of the pupils that may lead the EMT to suspect a head injury.
List the possible causes of breathing problems in relationship to face and head injuries.
Describe the emergency care of soft-tissue injuries of the scalp, face, and throat.
Explain the results of various injuries of the throat and the emergency treatment for them.
Describe the treatment of injuries of the nose.
State the possible result of injuries of the facial bones and describe emergency treatment for them.
Demonstrate the proper method of removing a foreign body from under the upper eyelid of a patient.
Demonstrate the proper care and management when a large, foreign body becomes impaled in the eye of a patient.
Demonstrate the proper treatment for injuries to the eyes.
Demonstrate the proper treatment for injuries to the face.
Demonstrate the proper treatment for injuries to the neck.

The Abdomen and Digestive System

Define the boundaries of the abdominal cavity.
List the contents of the abdominal and pelvic cavities.
List the components of the gastrointestinal tract and digestive system.
List the solid organs of the abdomen.
List the hollow organs of the abdomen.

Injuries of the Abdomen

Name the injuries that can be caused by improperly adjusted seatbelts.
List the characteristics of severe abdominal injuries.
List the characteristics of hollow organ injuries.
List the characteristics of solid organ injuries.
List the characteristics of abdominal blood vessel injuries.
Describe the difference between open and closed abdominal injuries.
Describe the methods used for evaluating a patient with an abdominal injury.
List the vital signs which should be recorded for a patient who has an abdominal injury.
Describe the procedures used in the treatment of a patient with a severe abdominal injury.
List the steps in the treatment of a patient who has sustained a severe abdominal injury and is vomiting.
List the steps in the treatment of a patient with an abdominal evisceration.
List the steps in the treatment of a patient with a foreign object protruding from the abdomen.

The Acute Abdomen

Describe the signs and symptoms of an acute abdomen.
List the common causes of an acute abdomen.
List the differences between localized and diffused abdominal pain.
Describe how diseases cause the signs of acute abdomen.
List the steps of an orderly examination for an acute abdomen.
List the vital signs which should be observed and recorded in examining a patient with an acute abdomen.
Describe why it is important to maintain an airway, administer oxygen, and prevent or treat shock in the patient with an acute abdomen.
Explain why patients with an acute abdomen should not be given anything to eat or drink.

The Genitourinary System

Describe the structures and functions of the urinary system.

Describe the structures and functions of the genital system in the male.
Describe the structures and functions of the genital system in the female.

Injuries of the Genitourinary System

Describe the characteristics of injuries of the urinary system.
Describe the characteristics of injuries of the genital system in the male.
Describe the characteristics of injuries of the genital system in the female.
Describe the evaluation of a patient with a urinary tract injury.
Describe the procedures used by the EMT in treating injuries of the urinary tract.
Describe the procedures used by the EMT in treating injuries of the male genitalia.
Describe the procedures used by the EMT in treating injuries of the female genitalia.
Describe the general care of a female victim of sexual assault and rape.

Heart Attack

Explain the function of the blood supply of the heart.
Describe the process of atherosclerosis.
Describe the varied presentations of acute myocardial infarction (AMI).
Describe the physical findings of AMI.
Describe the therapy of AMI.
Describe the usual presentation of angina.
Describe the difference between angina and acute myocardial infarction.
Describe the changes in the heart with heart failure.
Describe the clinical picture of congestive heart failure.
Describe the therapy of congestive heart failure.

Stroke

Define stroke.
List the causes of stroke.
List the effects of stroke on the body.
Describe the presenting symptoms of stroke.
Describe the initial evaluation of the stroke patient.

Describe the immediate care of the patient with stroke.
List precautions to be taken which are unique to the stroke patient.

Diabetes Mellitus

Explain the process of sugar digestion.
Describe the symptoms of diabetes mellitus.
List the symptoms of diabetic coma.
List the symptoms of insulin shock.
Describe the therapy for the conscious diabetic patient.
Describe the therapy for the unconscious diabetic patient.

Dyspnea

Define dyspnea.
List the medical causes of shortness of breath.
Describe the means by which the blood acquires oxygen and loses carbon dioxide.
Describe how the level of carbon dioxide in the blood affects respiration.
Describe the effects of excess carbon dioxide in the body.
Describe how the level of oxygen in the blood affects respiration.
List the causes of chronic lung disease.
Describe the clinical presentation of lung disease.
Describe the clinical findings of lung disease.
Describe the emergency treatment of lung disease and special precautions for such treatment.
Define asthma.
Describe the emergency therapy for asthma.
Describe hyperventilation and the therapy for it.

Unconscious States

List the common causes of unconsciousness.
Describe the differences in the causes of loss of consciousness.
Explain what brings on unconsciousness in the common faint.
Name the types of convulsions in epilepsy.
Explain how a convulsion is brought on.
Describe the general care of an unconscious patient.
Describe the care of a person who has fainted.

Describe the treatment of and special considerations for the person who has undergone a convulsion.
Describe the treatment of the patient who has taken a drug overdose.

Communicable Disease

Define a communicable disease.
List modes of transmission of a communicable disease.
Define terms used when referring to a communicable disease.
Define the EMT's role in the control of a communicable disease.
List measures to be taken by the EMT to minimize his personal exposure to a communicable disease.
List measures the EMT must take in the maintenance of his vehicle when it is exposed to a communicable disease.
List measures the EMT must take in handling a patient with a communicable disease.
List the sources of common communicable diseases.
List the incubation periods of common communicable diseases.
List the mode of transmission of common communicable diseases.
List communicable diseases for which immunizations are available.
State the difference between period of incubation and period of communicability.

Childbirth

List four things to do for a pregnant woman with convulsions.
List four things to do for a pregnant woman who is hemorrhaging.
Describe four signs which indicate that a mother is probably going to deliver in a few minutes.
Identify three circumstances in which it will probably be necessary for the mother to deliver at the site.
Describe the preparation of the surface upon which the mother should lie for delivery.
Describe the position the mother should assume for delivery.
Describe the location of each of the EMTs and their supplies during delivery.
List the steps to be taken in helping to deliver the baby.
Identify the characteristics of complicated deliveries.

Describe the procedures to follow in various complicated deliveries.
List the things to do for the baby after delivery.
Describe the procedure for separating the baby and the umbilical cord.
Describe the signs of a baby requiring resuscitation and the steps in providing resuscitation.
Describe characteristics of the premature baby and the procedures for its care.
Describe the procedures for assisting the mother following a normal delivery.
Describe the procedures for treating a mother who has severe bleeding or other problems following delivery.
Demonstrate on an obstetrical manikin correct procedures for both normal and abnormal births.
Demonstrate on a resuscitation manikin procedures for resuscitating the newborn, including administration of oxygen.

Pediatric Emergencies and Special Problems

Describe the treatment for a child with an obstructed airway or a child requiring assisted ventilation or cardiac compression.
List the systolic blood pressure levels indicating shock in children in various age groups.
Describe how to estimate the volume of intravenous fluids that can be administered to a child safely.
List traumatic and nontraumatic causes of abdominal pain in children.
Describe how to treat a child with a high fever.
List some common causes of convulsions in children.
List the steps in treating a child who has ingested a poison.
Define sudden infant death syndrome.
List the identifying features of child abuse.
Describe the treatment of a sexually molested child.

The Disturbed and Unruly Patient

Describe the psychological and psychiatric reactions of patients with injuries or illness.
Describe the psychiatric problems of the dying patient.
List specific organic diseases or conditions associated with disturbed behavior.

Describe the range of psychiatric or behavioral disturbance seen in response to injury, illness, or disease.
Describe the specific means by which the EMT may treat unruly or disturbed behavior in given instances.
Describe the emergency treatment for the suicidal patient.
Describe the behavior patterns of the emotionally disturbed patient.
Describe the behavior of the aged senile patient with organic brain disease.
Establish appropriate priorities in psychiatric and medical care for suicidal or disturbed patients.
Describe the situations in which additional aid is required.
Describe the appropriate areas of help available to the EMT in treating the emotionally disturbed patient.
Describe the legal limitations imposed on the EMT in treating the emotionally disturbed patient.

Alcohol and Drug Abuse

List the commonly used drugs by type of reactions produced.
List the various drugs and materials subject to abuse.
List the various substances which may be accidentally ingested and which may produce adverse reactions.
List the most common types of drugs abused.
List major clinical effects produced by drugs that are commonly abused.
List the disease processes that alcohol or drug abuse can mimic.
Describe the immediate care of patients who have abused alcohol or drugs.
Describe the immediate care of patients with an allergic drug reaction.
Describe how the EMT can be of assistance in identifying specific offending substances.
Describe local rules pertaining to the care of patients who have abused alcohol or drugs.

Heat Exposure

List the causes of heat exposure.
Point out the common factor in all causes of heat exposure.
Point out the differences in the various causes of heat exposure.

Describe the importance of the skin as an organ of the body.
Point out other areas or organs which are endangered as a result of heat exposure.
Explain the importance and methods of rating burns.
List the common factors in treatment of all burns.
Describe the differences in the treatment of specific burns.
Describe systemic complications of burns.
Describe the signs and treatment of heat exhaustion.
Describe the signs and treatment of heat stroke.
Demonstrate the emergency care for thermal, chemical, and radiation burns.

Cold Exposure

Describe the importance of the wind-chill factor.
Explain the methods of heat loss from the body.
List the clinical injuries of cold exposure.
Explain the factors aggravating cold exposure.
Describe the keystones of treatment of cold injuries.
Identify the methods of heat conservation.
Recognize the stages through which tissues pass as they are warmed.

Radiation Exposure

Name the different kinds of ionizing radiation.
Name the physical and chemical forms in which ionizing radiation may be present.
Describe the methods by which ionizing radiation may enter the body to cause damage even though the radiation itself may not be able to penetrate the skin.
Describe a sign which would indicate the possible presence of radioactivity in an accident.
Name the three safety principles that are important in avoiding dangerous exposure to radiation.
State the principles of radiation decontamination.
State where one can obtain expert advice concerning possible patient exposure to ionizing radiation.
Demonstrate the use and reading interpretation of a Geiger counter or other radiation survey meter.

Electrical Hazards

Name materials that conduct electric current.

Name materials that do not conduct electric current and are therefore good insulators.
Describe the conditions necessary for the flow of electric current.
List the most commonly encountered electrical hazards.
Describe how to recognize high voltage in a downed electric wire.
List the type of injury which is the most common result of electric shock.
Describe the method of immediate treatment for electrical burns.
Describe how electric shock may affect the heart and respiration.
List the causes of death from electric shock.
List the precautions necessary in dealing with electrical hazards.
Demonstrate shutting off electrical service to a building or area.
Demonstrate the removal of a live electric wire from a person or object.
Demonstrate removing a person from an electric hazard.

Water Hazards

Define drowning.
List the characteristics of hypothermia.
Define breath-holding blackout.
List injuries which can result from diving into shallow water.
List the most frequently encountered problems in scuba diving.
Define decompression sickness.
Define nitrogen narcosis.
Describe the methods of rescue and resuscitation in water-related injuries.
Describe rescue and resuscitation methods for a patient who has a suspected neck injury.
List the steps in treating the patient with hypothermia.
Describe the treatment of a scuba diver who suffers descent problems.
Describe how to correct nitrogen narcosis.
Describe the treatment of air embolism.
Describe the prevention and treatment of decompression sickness.

Operating as a member of a team, demonstrate the rescue and resuscitation methods for a patient who has a suspected spinal injury due to a diving accident in the water.

Demonstrate the rescue and management of a drowning patient.

Poisons, Stings, and Bites

Define a poison.

List the common categories of poisons in the household.

List the systems of the body which may be affected by poisons.

List the steps that should be taken in attending a patient who has ingested a poison.

Name the circumstances under which vomiting should not be induced for an ingested poison.

Describe the method used to induce vomiting.

Describe the emergency treatment of a patient who has had contact with a surface poison.

List the various body systems that can be affected by poisonous plants.

Describe the emergency treatment for a patient who has ingested a poisonous plant.

List the common classes of insects which can cause painful or harmful bites.

Describe the two types of responses the body makes in reaction to an insect bite or sting.

Describe the emergency treatment of a patient who has an allergic reaction to an insect sting.

Describe the signs, symptoms, and emergency treatment of a patient who has been bitten by a black widow spider.

Describe the signs, symptoms, and emergency treatment of a patient who has been bitten by a brown recluse spider.

List the poisonous snakes of the United States.

Describe the physical characteristics of pit vipers.

List the signs, physical findings, and emergency treatment of a patient who has been envenomated by a pit viper.

Describe the physical characteristics of a coral snake.

List the physical signs and symptoms and emergency treatment of a patient who has been envenomated by a coral snake.

Describe the types of injuries which marine animals can produce in human beings.

Describe the emergency treatment for a patient who has received a stinging injury from the tentacles of a jellyfish.
Describe the signs and symptoms and emergency treatment of a patient who has received a puncture wound from the spines of a sea urchin.

Emergency Vehicles, Equipment, and Maintenance

Define an ambulance.
Identify the basic medical requirements for an ambulance.
Identify the design criteria for an ambulance.
Compare helicopters and surface vehicles for advantages and disadvantages as ambulances.
List the categories of equipment to be carried on the ambulance.
Identify the essential equipment in each category.
Describe the daily inspection of an ambulance.
Describe the cleaning and decontamination process necessary for an ambulance.
Describe the 1,000-mile servicing procedure for an ambulance.
Given a display of the equipment carried on the ambulance:
(a) identify and describe the purpose for which each would be used;
(b) indicate the location where each is normally carried in the ambulance by returning the equipment to its proper place.
Demonstrate the care and maintenance of the ambulance and the equipment carried on the ambulance.

Patient Handling and Extrication

List the methods an EMT working alone can use to move a patient.
Describe the standard lifts and carries.
Name the specialized methods of handling patients.
Describe the handling of sick or injured children.
Describe the handling of patients with communicable diseases.
Identify the use of each type of stretcher.
Describe the use of special and improvised stretchers.

Explain the necessity for EMTs to be knowledgeable in rescue operations.

List the types of rescue.

List the phases of rescue in disaster.

Name the areas where specialized rescue is necessary.

Name the elements to be considered in extrication.

Describe the procedures to be used for each type of extrication.

Given equipment carried in the ambulance and operating as a member of a team, demonstrate the extrication of a victim from a vehicle accident.

Operating as a member of a team, demonstrate the removal of a victim from a vehicle, using a short spineboard.

Operating as a member of a team, demonstrate placing and securing a victim on a long spineboard.

Operating as a member of a team, demonstrate the use of a scoop stretcher to remove a victim from an area.

Operating as a member of a team, demonstrate the use of a basket litter or improvised stretcher to remove a victim from an area.

Emergency Driving and Traffic Control at the Accident Scene

Describe the effects of a speeding ambulance on the patient.

Identify the occasions when speed is considered essential in transporting patients.

Describe the human factors which contribute to unsafe driving.

Describe the physical factors which affect control of a vehicle.

Name the skills which a driver needs to operate an ambulance safely.

State your State and local laws covering right-of-way privilege.

State your State and local laws governing use of lights and siren.

Describe the actions necessary for safe parking of the ambulance at the accident scene.

Describe the actions necessary for effective traffic control at the accident scene.

Demonstrate an ability to start, stop, drive and operate an ambulance safely.

Demonstrate the method and procedure of cleaning, maintaining and inspecting the ambulance and its equipment.

Communications

Describe the role that communication plays in an EMS system.

Describe the responsibilities of the EMS dispatcher.

Identify the various types of communication equipment used to link the dispatcher, the medical facilities, and the physician with the EMT.

Demonstrate a knowledge of all hospitals and emergency medical centers in the response area by:
(a) naming and giving the location of each
(b) indicating the locations of the emergency rooms
(c) indicating the locations of emergency entrances.

Demonstrate knowledge of the correct procedure for a citizen to report a medical emergency.

Demonstrate correctly receiving a report of a medical emergency, and initiate proper action.

Demonstrate station watch duties as assigned by the authority having jurisdiction.

Demonstrate any traffic control devices installed in the ambulance station to facilitate the response of apparatus.

Demonstrate procedures required for receipt and processing of business and personal calls.

Demonstrate prescribed emergency medical service radio procedures.

Demonstrate policy and procedures concerning requests for special assistance.

Identify and demonstrate knowledge of areas assigned for emergency ambulance response.

Demonstrate proper use, as specified by the authority having jurisdiction, of radio equipment, both mobile and portable.

Demonstrate arrival and situation reports over emergency medical service radios in the manner specified by the authority having jurisdiction.

Records and Reports

Describe the purposes of EMT reporting and recordkeeping.

List the types of information required for medical, legal, community health, and administrative purposes.

Identify users of information collected through the EMT reporting and recordkeeping system.

Identify the importance of EMT reporting and recordkeeping relative to other aspects of EMS.

Name the person or persons who report or record information for the ambulance, and tell what information is recorded and when reported.

Summarize local reporting and recordkeeping information requirements and procedures.

Demonstrate completion of the local ambulance report form for a hypothetical call.

Safety

Identify and explain dangerous conditions that may be encountered at the scene of an accident or other scenes of emergency and the precautions to be taken to protect the EMT and others.

Demonstrate knowledge of safety procedures to be followed in the use of all equipment and apparatus that the EMT may be called upon to use.

Demonstrate the correct use of all safety equipment to be used in electrical emergencies as prescribed by the authority having jurisdiction.

Identify and explain the symbols used to designate hazardous materials and areas, and identify precautions that ambulance crewmen are expected to observe and follow in such areas.

Demonstrate shutting off the gas services to a building or area.

Identify some dangers of search and rescue missions in tunnels, caves, construction sites, and other hazardous areas as specified by the authority having jurisdiction.

Ropes

Demonstrate tying all knots as prescribed by the authority having jurisdiction.

Demonstrate the use of approved knots to hoist and lower stretchers, victims, and equipment.

Demonstrate the methods of inspecting, cleaning, and maintaining rope.

Rescue

Demonstrate the removal of injured persons from the immediate hazard by the use of carries, drags, and stretchers.

Demonstrate the procedure to remove debris, rubble, and other materials found at a cave-in.

Demonstrate the use of shoring blocks and jacks to prevent cave-ins.

Demonstrate how to prepare a victim for emergency transportation by using standard available equipment, or by improvising a method.

Protective Breathing Apparatus

Name four hazardous respiratory environments that may be encountered at the scene of an emergency.

Demonstrate the donning and use of all types of protective breathing apparatus carried in the ambulance.

Explain the physical requirements of the wearer, the limitations of the protective breathing apparatus, and the safety features of all types of protective breathing apparatus carried in the ambulance.

Demonstrate that the protective breathing apparatus is in a safe condition for immediate use.

Demonstrate proper procedure for cleaning and sanitizing protective breathing apparatus for future use.

Forcible Entry

Identify and demonstrate the use of each type of forcible entry tool carried in the ambulance.

Demonstrate the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool and equipment.

Demonstrate the method and procedure of forcible entry through any vehicle, door, window or roof, and any vertical barrier specified by the authority having jurisdiction.

Portable Fire Extinguishers

Demonstrate a knowledge of the chemistry of fire.

Identify the classification of types of fire as they relate to the use of portable extinguishers.

Given a group of differing extinguishers and test fires, demonstrate the selection and use of the appropriate extinguishers for the various classes of fire.

Identify the portable extinguisher rating system.

Demonstrate the inspection, care and maintenance of each type of portable extinguisher carried in the ambulance.

COURSE CONTENT OUTLINE

Introduction

Orientation of the Emergency Medical Technician
Legal Responsibilities

Anatomy, Diagnostic Signs, and Triage

General and Topographic Anatomy
Interpretation of Diagnostic Signs and Triage

Basic Life Support

The Respiratory System
Injuries of the Chest
The Circulatory System
Bleeding and Control of Bleeding
Shock
Basic Life Support
Oxygen Therapy and Equipment

The Musculoskeletal System

The Skin
The Muscular System
Soft-Tissue Injuries
The Skeletal System
Fractures, Dislocations, and Sprains
General Principles of Splinting and Bandaging
Fractures and Dislocations of the Shoulder and Upper Extremity
Fractures and Dislocations of the Hip, Pelvis, and Lower Extremity
Fractures and Dislocations of the Spine

The Head and Nervous System

The Nervous System
Injuries of the Skull and Brain
The Eye
Injuries of the Eye, Face, and Throat

The Abdomen and Genitourinary System

The Abdomen and the Digestive System
Injuries of the Abdomen
The Acute Abdomen
The Genitourinary System
Injuries of the Genitourinary System

Medical Emergencies

Heart Attack
Stroke
Diabetes Mellitus
Dyspnea
Unconscious States
Communicable Disease

Childbirth and Special Pediatric Problems

Childbirth
Pediatric Emergencies and Special Problems

Mental Health Problems

The Disturbed and Unruly Patient
Alcohol and Drug Abuse

Environmental Injuries

Heat Exposure
Cold Exposure
Radiation Exposure
Electrical Hazards
Water Hazards
Poisons, Stings, and Bites

Emergency Vehicles and Equipment; Patient Handling and Extrication

Emergency Vehicles, Equipment, and Maintenance
Patient Handling and Extrication
Emergency Driving and Traffic Control and the Accident Scene

Communications, Records, and Reports

Communications

Records and Reports

Portable Fire Extinguishers

Chemistry of Fire
Classification of Fires
Classification, Rating, and Use
Inspection, Care, and Maintenance

Safety

Dangerous Conditions
Equipment and Apparatus
Electrical Emergencies
Gas Emergencies
Hazardous Materials—Symbols
Search and Rescue Missions

Ropes

Knots—Tying and Use
Hoisting and Lowering (Stretchers, Equipment, Victims)
Inspection, Care, and Maintenance

Rescue

Removal of Injured Persons (Carries, Drags, Stretchers)
Cave-ins
Shoring and Jacks
Preparation of Victim
Water Rescues
Aircraft Rescues

Protective Breathing Apparatus

Hazardous Environments
Physical Requirements of Wearer
Donning and Use
Inspection, Care, and Maintenance

Forcible Entry

Forcible Entry Tools—Description and Use
Construction of Vehicles, Doors, Windows, Roofs
Vertical Barriers

APPENDIX B: EMERGENCY MEDICAL TECHNICIAN—PARAMEDIC (EMT-P) APPRENTICESHIP

PERFORMANCE OBJECTIVES

In any system developed, the emergency medical technician (EMT) should be able to demonstrate the following skills to the satisfaction of the commanding physician or the certifying agency to meet the criteria established for an EMT-paramedic by the National Academy of Sciences/National Research Council Task Force on Emergency Medical Technicians.

Perform an appropriate patient assessment, including:

History taking (chief complaint, pertinent history of the present illness and past medical history).

Physical examination, including:

Assessment of patient's general appearance and state of consciousness

Evaluation of vital signs, including pulse, blood pressure, and respirations

Trauma-oriented and medically oriented head-to-toe surveys, including, but not limited to:

a. Inspection and palpation of the head and neck
b. Inspection of the chest and auscultation of heart and lung sounds
c. Inspection of the abdomen and auscultation of abdominal sounds
d. Inspection and palpation of extremities
e. Evaluation of neurological status and neuromuscular function

Demonstrate aseptic technique of peripheral venipuncture and drawing blood samples.

Demonstrate the technique for aseptic assembly of intravenous (IV) equipment and for calculation of flow rate.

Demonstrate on a fellow student, patient, or manikin the technique for establishing an IV lifeline using an over-the-catheter needle (extracath) or winged infusion needle (butterfly).

Recall the type of intravenous fluid appropriate in:

A "keep open" line in a cardiac patient

Hemorrhagic shock

Demonstrate on a fellow student or adult manikin the application, inflation, and correct sequence of deflation of the military antishock trousers.

Demonstrate the technique for calculating dosage and drawing up a designated volume of fluid in a syringe from an ampule or vial.

Demonstrate the technique for administering drugs using a prepackaged disposable syringe.

Demonstrate the technique for subcutaneous and intramuscular injection on a fellow student.

List the indications, contraindications, actions, dosage, and route of administration of each of the following drugs:

Epinephrine 1:10,000
Epinephrine 1:1,000
Sodium bicarbonate
Atropine
Calcium chloride (or gluconate)
Lidocaine
Morphine or other narcotic derivative
Vasopressor (norepinephrine, dopamine, metaraminol, etc., depending on local use)
Furosemide (Lasix) or other rapid-acting intravenous diuretic
Naloxone (Narcan)
Diazepam (Valium) or short-acting barbiturate
Oxytocin (Pitocin)
Aminophylline
Nebulized bronchodilators
50-percent dextrose
Steroids
Syrup of ipecac
Activated charcoal

Demonstrate the procedure for evaluation of a patient with suspected respiratory distress, including the evaluation of general appearance, respiratory rate and depth, pulse, blood pressure, use of accessory muscles of respiration, and quality of breath sounds.

Recall the probable cause, signs, and symptoms and demonstrate the treatment for the following problems involving the respiratory system:

Respiratory depression

Respiratory distress (general)
Upper airway obstruction (tongue, foreign body, blood, vomitus, edema, laryngospasm, airway trauma)
Obstructive airways diseases
Toxic inhalations and airway burns
Pulmonary edema
Hyperventilation syndrome
Trauma, including rib fractures, flail chest, simple pneumothorax, tension pneumothorax, hemothorax, and sucking chest wounds
Pulmonary embolism

Demonstrate in the correct sequence the procedure for opening an obstructed airway, showing mastery of the following skills:

Backward tilt of the head
Triple airway maneuver
Crossed-finger maneuver
Manual sweeping of the mouth
Backblows
Abdominal thrust ("Heimlich maneuver")
Mouth-to-mouth ventilation

Demonstrate the procedure for the administration of oxygen to a breathing patient using the oxygen mask, nasal cannula, and demand-valve/hand-triggered ventilation device.

Demonstrate the use of the oropharyngeal and nasopharyngeal airways, pocket mask, bag-valve-mask unit, and demand-valve/hand-triggered ventilation device on a nonbreathing patient (manikin).

Demonstrate the technique of atraumatic oropharyngeal and nasopharyngeal suctioning.

Demonstrate the technique of aseptic and atraumatic endotracheal and tracheotomy suctioning.

Demonstrate the technique for direct laryngoscopy and insertion of an endotracheal tube in an adult, child, and infant.

Recall the probable cause(s), signs, and symptoms and demonstrate the treatment for each of the following conditions:

Acute myocardial infarction
Congestive heart failure
Cardiogenic shock
Syncope
Myocardial trauma

Acute hypertensive emergencies

Demonstrate the application of electrodes and the monitoring of a patient's electrocardiographic activity.

Identify on lead II and list the treatment, if any, of the following cardiac rhythms:

- Normal sinus rhythm
- Sinus arrhythmia
- Sinus arrest
- Sinus bradycardia
- Sinus tachycardia
- Premature supraventricular contractions
  - Premature atrial contractions
  - Premature junctional contractions
- Supraventricular tachycardia
- Atrial fibrillation
- Atrial flutter
- First degree heart block
- Second degree heart block
- Third degree heart block
- Premature ventricular contractions (PVC's) (with emphasis on frequent PVC's, R on T phenomena, coupled PVC's, multifocal PVC's)
- Ventricular tachycardia
- Ventricular fibrillation
- Asystole
- Pacemaker rhythms

Perform (with the assistance of a fellow EMT) one- and two-person cardiopulmonary resuscitation (CPR) on adults, CPR on infants, and other basic and advanced life-support techniques as outlined in the standards of the American Heart Association. Skills involved include:

- Recognition of respiratory or cardiac arrest
- Establishment of an airway by manual techniques
- Mouth-to-mouth ventilation
- External cardiac compression
- Use of quick-look defibrillator paddles for recognition of arrhythmias
- Empirical and monitored external defibrillation

The EMT must in addition be able to recall the sequence of actions in gaining control of the airway, gaining access to the venous circulation, and administering drugs under a physician's direction.

Recall the probable cause, signs, and symptoms of, and demonstrate the treatment for the following problems involving the central nervous system:

- Trauma to the head or spine
- Seizures
- Cerebrovascular accident
- Coma of any cause

Demonstrate the technique for spinal immobilization using:

- Cervical collar
- Short spine board
- Long spine board
- Orthopedic stretcher

Demonstrate the techniques for controlling hemorrhage, including:

- Direct pressure
- Elevation
- Pressure point control
- Tourniquet

Demonstrate the procedures for managing:

- Avulsions
- Impaled objects
- Eviscerations
- Amputations

Recall the probable signs and symptoms of and demonstrate the treatment for various types and degrees of burns.

Recall the probable cause(s), signs, and symptoms of and demonstrate the treatment for problems involving the musculoskeletal system, including the techniques of immobilization with the traction splint, air splint, and board splint.

Recall the probable cause(s), signs, and symptoms of and demonstrate the knowledge and skills required for management, under a physician's command, of various medical emergencies, including:

- Diabetic ketoacidosis
- Hypoglycemic reactions
- Anaphylactic reactions
- Heat stroke
- Heat exhaustion
- Heat cramps
- Frostbite
- Generalized hypothermia

Poisonings
Drug overdose
Acute abdomen

Demonstrate on an obstetrical manikin the procedure for the preparation of a mother and delivery of an infant in a cephalic birth.

Recall the signs and symptoms and demonstrate the procedure to be performed in each of the following situations:

Breech birth
Premature birth
Abortion (induced by accidental or natural causes)
Multiple-infant birth
Arm or leg presentation
Prolonged delivery
Prolapsed umbilical cord
Postpartum hemorrhage
Ruptured uterus
Birth of a nonbreathing infant
Third-trimester bleeding
Preeclampsia or eclampsia
Rape
Supine hypotensive snydrome

Recall the probable cause(s), signs, and symptoms of, and demonstrate the treatment for the following problems in a pediatric patient:

Asthma
Bronchiolitis
Croup
Epiglottitis
Sudden infant death syndrome
Seizures
Child abuse

Demonstrate the appropriate procedure for dealing with emotionally disturbed patients, whether the cause is physical or psychological.

Demonstrate the various aspects of basic extrication/ rescue including:

Vehicle stabilization and hazard control
Gaining access to the patient
Disentanglement of the patient
Packaging the patient
Extrication of the patient

Specialized rescue techniques using ropes, knots, hitches, latchings, stretchering, blanketing, and repelling.

Demonstrate the completion of required patient records and the transfer of information to the commanding physician, both vocally and in writing, including the operation of a two-way radio and telemetry system.

COURSE GOALS BY MODULE

Module I: The Emergency Medical Technician—Role, Responsibilities, and Training

The role of the emergency medical technician (EMT)-paramedic in the health care delivery system is discussed. The duties and responsibilities of the EMT as well as any legislation affecting job performance are covered. In addition, the students discuss issues concerning the EMT, including medical ethics and reaction to death and dying.

Upon completion of this module, the student should be able to:

List three responsibilities of an EMT-paramedic.
Recall the laws under which he is permitted to function.
Recall two examples of how patients and those caring for them react to death and dying.

Module II: Human Systems and Patient Assessment

This module includes an overview of anatomy and physiology of each system of the body. The use of medical terminology and the construction of medical terms using roots, prefixes, and suffixes also are included. In addition, the modules deal with the procedure for a patient assessment, including the patient's medical history, physical examination, and transfer of collected information to the supervising physician.

Upon completion of this module, the student should be able to:

Identify the major structures and the primary function for each of the following systems:
Musculoskeletal
Respiratory

Circulatory
Nervous
Digestive
Endocrine
Genitourinary

Define common medical terms, including prefixes and suffixes in English equivalent, and vice versa.

Demonstrate the procedure for eliciting a medical history.

Demonstrate the procedure for conducting a physical examination.

Demonstrate the procedure for the transfer of information to the supervising physician.

Module III: Shock and Fluid Therapy

Included in this module is a discussion of the fluids and electrolytes in the body, with emphasis being placed on the manifestation of fluid and electrolyte imbalances. The manifestations of dehydration and overhydration are included. The module also deals with the causes, signs, and symptoms of shock, fluid administration through intravenous (IV) techniques, and the application of the military antishock trousers (MAST).

Upon completion of this module, the student should be able to:

Recall the cause, signs, symptoms, and treatment of dehydration and overhydration and their imbalances.

Recall the definition, causes, clinical manifestations, and treatment of hypovolemic, cardiogenic, or low-resistance shock.

Recall the appropriate circumstances for use of colloid versus crystalloid solutions.

Demonstrate on a fellow student, patient, or manikin the techniques of peripheral venipuncture using an over-the-needle catheter device, straight needle, or intracath.*

Calculate rates of IV fluid administration by drops-per-minute technique.

*Indicates optional skill. The optional skills are included because they have been demonstrated in prehospital care systems as effective in the field when performed by paramedic personnel, but these skills are not necessary to meet the criteria for an EMT-paramedic as defined by the National Academy of Sciences/National Research Council Task Force on Emergency Medical Technicians.

Demonstrate aseptic technique of drawing blood.

Demonstrate on an adult manikin or fellow student the application, inflation, and correct sequence of deflation of the MAST.

Demonstrate the technique for subclavian and internal jugular intravenous insertion.*

Module IV: General Pharmacology

This module is designed to introduce the student to the general groups of drugs and the classification of each. The module also discusses the kind of information the student should know about each drug; specifically, therapeutic effect, indications, contraindications, correct dosage, and side effects. In addition, the module deals with the calculation of dosages, the use of the metric system, and the administration of drugs through the various routes.

Upon completion of this module, the student should be able to:

Define the action of an agent given the general group to which it belongs, for example, alpha sympathomimetic agent.

List the information the EMT should know about each drug.

State the procedure for verifying medication orders received over the radio from a physician.

Calculate the volume of fluid to be administered given the dosage required and the concentration of the drug.

Define the Latin prefixes and units of measurement used in the metric system.

Convert one unit of measure to another in the metric system, for example, centimeters to meters.

Calculate the weight in kilograms when given a weight in pounds.

Demonstrate the technique for drawing up the designated volume of fluid in a syringe from an ampule and a vial.

Demonstrate the technique for administering drugs using a prepackaged disposable syringe.

Demonstrate the technique for subcutaneous and intramuscular injection on a fellow student.

*Indicates optional skill.

Demonstrate the techniques for the administration of drugs into an IV bottle or through an IV insertion site.

Module V: Respiratory System

This module begins with a discussion of the anatomy and physiology of the respiratory system and the assessment of a patient with suspected respiratory distress. Pathophysiology—including respiratory arrest, upper airway obstruction, obstructive airway diseases, toxic inhalations, pulmonary edema, hyperventilation syndrome, pulmonary embolism, and trauma—also is discussed. Techniques of management include oxygen administration, use of adjunctive equipment, direct laryngoscopy, endotracheal intubation, esophageal obturator airway, and suctioning, among others.

Upon completion of this module, the student should be able to:

Identify each structure in the respiratory system, and list at least one function of each.

Demonstrate the procedure for the evaluation of a patient with suspected respiratory distress, including the evaluation of hypoxia, pulse, blood pressure, and neck vein distension, inspection of the precordium, and auscultation of lung sounds.

Recall the probable cause, signs, symptoms, and treatment of the following problems involving the respiratory system:

- Respiratory depression and respiratory distress
- Upper airway obstruction
- Obstructive airway diseases
- Toxic inhalations
- Pulmonary edema
- Hyperventilation syndrome
- Trauma, including rib fractures, flail chest, traumatic pneumothorax, and hemothorax
- Pulmonary embolism

Demonstrate the procedure for the administration of oxygen to a breathing patient using oxygen mask, nasal cannula, and demand-valve unit.

Demonstrate the use of oropharyngeal and nasopharyngeal airways, pocket mask, bag-valve-mask unit, and demand-valve unit on a nonbreathing patient (manikin).

Demonstrate proper assembly, cleaning, functioning, and testing of all above equipment.

Demonstrate the technique of aseptic and atraumatic orotracheal, endotracheal, and tracheotomy suctioning.

Demonstrate the use of hand-powered or gas-powered nebulizer.

Demonstrate the technique for direct laryngoscopy.

Demonstrate the procedure for the insertion of an endotracheal tube in an adult and an infant manikin.

Demonstrate the technique for the insertion of an esophageal obturator airway.*

Demonstrate the technique of cricothyroidotomy on a manikin or animal.*

Demonstrate the technique of transtracheal jet insufflation on a manikin or animal.*

Demonstrate the technique for using a positive-end expiratory pressure device.*

Demonstrate on a manikin or animal the procedure for relieving a tension pneumothorax using a catheter and Heimlich valve.*

Module VI: Cardiovascular System

The module begins with a discussion of the anatomy and physiology of the cardiovascular system, with emphasis on the structure, function, and electrical conduction system of the heart. Then the assessment of the patient with a suspected cardiovascular problem is discussed. Pathophysiology also is discussed, including coronary artery disease and angina, acute myocardial infarction, cardiogenic shock, syncope, trauma, and hypertensive states. In addition, the module deals with the interpretation and treatment of basic arrhythmias. Specific techniques covered include cardiopulmonary resuscitation, electrocardiographic monitoring, defibrillation, phlebotomy, carotid sinus massage, intracardiac injections, transthoracic pacemakers, and use of mechanical heart-lung resuscitators.

Upon completion of the module, the student should be able to:

Label each structure on the diagram of the cardiovascular system, and list one function of each.

*Indicates optional skill.

Label each structure on a diagram of the heart, and list one function of each.

Label each structure on a diagram of the electrical conduction system of the heart.

List the cause, signs, symptoms, and treatment of each of the following conditions:

- Acute myocardial infarction
- Congestive heart failure
- Cardiogenic shock
- Syncope
- Myocardial trauma
- Hypertensive states

Demonstrate the application of electrodes and the monitoring of a patient's electrocardiogram (EKG) activity.

Identify on an EKG the P wave, P-R interval, QRS complex, T wave, and isoelectrolyte.

Identify on lead II and list the treatment, if any, for the following cardiac rhythms:

- Normal sinus rhythm
- Sinus arrhythmia
- Sinus arrest
- Sinus bradycardia
- Sinus tachycardia
- Premature supraventricular contractions
  a. Premature atrial contractions
  b. Premature nodal contractions
- Supraventricular tachycardia
- Atrial fibrillation
- Atrial flutter
- First degree block
- Second degree block (Mobitz I and II)
- Third degree block
- Premature ventricular contractions
- Ventricular tachycardia
- Ventricular fibrillation
- Asystole
- Pacemaker rhythm

Demonstrate on an adult manikin and an infant manikin the technique for one-person and two-person cardiopulmonary resuscitation, including advanced life-support techniques (defibrillation after quick look, IV insertion, intubation, sequence of pharmacologic agents).

Demonstrate the procedure for the application of rotating tourniquets, using conventional as well as pressure-monitored pneumatic cuffs.

Demonstrate the technique for cardioversion on a manikin.*

Demonstrate the technique of carotid sinus massage.*

Demonstrate the technique of phlebotomy on a manikin.*

Demonstrate on a manikin or animal the technique of intracardiac injection.*

Demonstrate on a manikin the procedure for using a transthoracic pacemaker.*

Demonstrate the procedure for the use of mechanical heart-lung resuscitation on a manikin.*

Module VII: Central Nervous System

This module includes the anatomy and physiology of the central nervous system (CNS) and the procedure for the assessment of a patient with a nervous system disorder. The pathophysiology and management of patients presenting with CNS trauma, seizures, and cerebrovascular accident are discussed. In addition, management of the comatose patient is covered. Specific treatments discussed include spinal immobilization in cases of trauma and the administration of diazepam in cases of seizures.

Upon completion of this module, the student should be able to:

Label each structure on a diagram of the brain and spinal column, and list the function of each.

Demonstrate the technique for evaluating a patient with a suspected CNS disorder, including:

- Trauma
- Seizures
- Cerebrovascular accident
- Coma

Demonstrate the technique for spinal immobilization using:

- Short spine board
- Long spine board
- Orthopedic stretcher

*Indicates optional skill.

Recall the procedure for the management of the following CNS disorders:
- Trauma
- Seizures
- Cerebrovascular accident
- Coma

Module VIII: Soft-Tissue Injuries

This module includes the anatomy and physiology of the integument. The assessment and management of soft-tissue injuries, including abrasions, lacerations, punctures, avulsions, burns, and impaled objects, are also included. Skills presented in this module include control of hemorrhage and the dressing and bandaging of specific injuries. Also discussed are injuries to specific regions, including the eye, face, neck, and abdomen.

Upon completion of this module, the student should be able to:

- Demonstrate the techniques for controlling hemorrhage.
- Demonstrate the procedure for dressing and bandaging an avulsion or an impaled object.
- Demonstrate the procedure for treating specific injuries to the eye, face, and neck.
- Recall the types and degrees of burns, and demonstrate the treatment for each.

Module IX: Musculoskeletal System

This module includes the anatomy and physiology of the musculoskeletal system, patient assessment, and the management of sprains, strains, fractures, and dislocations. Skills presented included splinting and immobilization techniques with the traction splint, air splint, and board splint.

Upon completion of this module, the student should be able to:

- Label the major muscle groups and bones of the body.
- Demonstrate the technique of immobilization using the traction splint, air splint, and board splint.
- Demonstrate the technique for managing a dislocation of the elbow, knee, ankle, hip, shoulder, or wrist.

Module X: Medical Emergencies

This module includes the identification and management of diabetic emergencies, anaphylactic reactions, exposure to environmental extremes, alcoholism, poisoning, acute abdomen, genitourinary problems, and medical emergencies of the geriatric patient.

Upon completion of this module, the student should, when given lists of signs and symptoms for a patient, be able to:

Identify the medical problem as one of the following:

- Hyperglycemia
- Hypoglycemia
- Anaphylactic reaction
- Heat stroke
- Heat exhaustion
- Heat cramps
- Frostbite
- Hypothermia
- Absorbed poison
- Ingested poison
- Inhaled poison
- Injection poison
- Alcoholism
- Acute abdomen
- Genitourinary problems

Recall the treatment for each of the above medical problems.

Demonstrate on a fellow student the insertion of a nasogastric tube.*

Demonstrate the technique of insertion of urinary bladder catheter.*

Module XI: Obstetric/Gynecologic Emergencies

This module includes the anatomy and physiology of the female reproductive system and the technique for patient assessment of a person with suspected obstetric or gynecologic disorder. The module also includes the management of an expectant mother, normal delivery, and the care and transportation of a mother and newborn. Abnormal deliveries such as multiple births, premature birth, breech

*Indicates optional skill.

birth, and prolapsed umbilical cord are discussed. In addition, complications of labor and delivery, including postpartum hemorrhage, ruptured uterus, inverted uterus, eclampsia, and infant resuscitation are reviewed.

Upon completion of this module, the student should be able to:

Label each structure on a diagram of the female reproductive system, and list one function of each.

Demonstrate on an obstetrical manikin the procedure for the preparation of a mother and the delivery of an infant in a cephalic birth.

Identify the procedural steps to be performed in each of the following situations:

Breech birth
Premature birth
Abortion (induced by accidental or natural causes)
Multiple-infant birth
Arm or leg presentation
Prolonged delivery
Prolapsed umbilical cord
Postpartum hemorrhage
Ruptured uterus
Birth of nonbreathing infant
Third trimester bleeding
Eclampsia or preclampsia
Rape
Supine hypotensive syndrome

Module XII: Pediatrics and Neonatal Transport

This module explains the unique aspects of dealing with and assessing pediatric patients. It also includes the pathophysiology and management of problems that are primarily seen in pediatric patients, including asthma, bronchiolitis, croup, epiglottitis, sudden infant death syndrome, and seizures. In addition, the module discusses the role of the EMT in a system for neonatal transport. The specific skills included are a review of infant resuscitation, IV techniques, and tracheal intubation on the infant.

Upon completion of this module, the student should be able to:

Demonstrate the technique for assessing a pediatric patient and recall at least three activities unique in managing children.

Identify the problem as one of the following when given a list of signs and symptoms for a patient:
- Asthma
- Bronchiolitis
- Croup
- Epiglottitis
- Sudden infant death syndrome
- Seizures
- Child abuse

Recall the probable cause and treatment for each of the above problems.

Demonstrate the technique for endotracheal intubation on an infant manikin.

Demonstrate the cardiopulmonary resuscitation on an infant manikin.

Demonstrate the insertion of an IV on an infant manikin.

Demonstrate the procedure for the operation of an isolette by maintenance of a temperature- and oxygen-concentration-controlled environment.*

Module XIII: Management of the Emotionally Disturbed Patient

This module discusses the various kinds of psychological problems the EMT might encounter. Specific procedures for handling each are included.

Upon completion, the student should be able to:

Identify a patient's behavior pattern from his activities and the situation.

Identify situations suggesting the following:
- Suicide attempt
- Hostility and violent behavior
- Acute grief and depression
- Paranoia
- Hysterical conversion

Demonstrate the technique for dealing with the patient in each of the above situations, including:
- Communication and interview technique
- Violence containment

Recall the local resources that may assist the student in the management of an emotionally disturbed patient.

*Indicates optional skill.

List the laws governing the handling and commitment of emotionally disturbed patients and list one effect each law has on the activities of the EMT in the field when dealing with emotionally disturbed patients.

Module XIV: Extrication/Rescue Techniques

This module emphasizes gaining access to, rescuing, and transporting a patient. The recognition and control of certain hazards, such as explosive materials, downed electrical wires, toxic gases, and radiation are included. In addition, techniques for lifting, packaging, and transporting patients in emergency and nonemergency situations are mentioned. This module should be developed to meet geographical needs on a local basis. While it is important that the EMT-paramedic be competent in extrication/rescue techniques, it is considered preferable that these techniques be carried out by others.

Upon completion of this module, the student should be able to:

Demonstrate the procedure for gaining access and disentangling a patient in a vehicle or structure.

Identify possible hazards when given a description of a scene, and recall the procedure for dealing with the hazard.

Demonstrate the procedure for the transportation of a patient having at least one of the following:

- Flail chest
- Fracture of an extremity
- Spinal trauma
- Multiple trauma
- Myocardial infarction
- Foreign body impaled in trachea, abdomen, back, or thorax.

Demonstrate with an assistant, using a fellow student as a patient, various techniques for lifting and moving patients in simulated emergency and nonemergency situations.

Demonstrate the procedure for the following situations:*

- Elevator rescue
- Repelling on a steep cliff
- Deep hole rescue
- Water rescue

*Indicates optional skill.

Module XV: Telemetry and Communications

This module deals with the use of radio communications equipment, including the transmission of voice communications and EKG transmission. The module also includes a discussion of the regulations established by the Federal Communications Commission (FCC) with respect to the use of radio equipment. In addition, the module deals with the protocols and procedures for the transfer of information to the supervising physician.

Upon completion of this module, the student should be able to:

Demonstrate the procedure for dispatching and using radio communications equipment.

Demonstrate the procedure for relaying information to the physician in the correct sequence.

CLINICAL TRAINING

The clinical experience required for each module is presented in the Instructor Lesson Plans by module. A summary for the entire program follows.

Emergency Department

During his experience in the emergency room, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

Perform patient assessment including developing relevant medical history and conducting a physical examination. The assessment should include, at a minimum, taking and recording vital signs, and auscultation of chest sounds.

Assist and review the treatment of trauma cases and medical emergencies.

Assist in triaging patients.

Assist in trauma cases requiring hemorrhage control, suturing, and splinting.

Perform peripheral IV insertions.

Prepare and administer intramuscular, subcutaneous, and IV medications.

Record and interpret EKG's.

Draw blood samples.

Assist in cases of cardiac arrest, including the perfor-

mance of cardiopulmonary resuscitation, airway management, intubation, and defibrillation.

Perform a subclavian or internal jugular IV insertion.*

Perform a cricothyroidotomy.*

Perform a transtracheal jet insufflation.*

Perform a phlebotomy in cases of acute heart failure.*

Demonstrate the use of transthoracic pacemaker.*

Assist in minor suturing.*

Intensive Care Unit/Coronary Care Unit (ICU/CCU)

During the experience in the ICU/CCU, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

Perform patient assessment including developing a pertinent medical history and performing a physical examination. At a minimum, the patient assessment should include a review of the patient's chart, taking vital signs, and auscultation of chest sounds.

Review all cases including the patient's chart, diagnosis, and treatment.

Perform peripheral IV insertion.

Prepare and administer intramuscular, subcutaneous, and IV medications.

Monitor and interpret EKG's and change monitor leads.

Draw blood samples.

Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation, management of the airway, endotracheal intubation, and defibrillation.

Assist in the care of patients with endotracheal or tracheostomy tubes and patients breathing on respirators.

Perform urinary bladder catheterization.*

IV Team

During the experience with the IV team, the student should have the opportunity to practice under direct supervision and demonstrate proficiency in each of the following:

Demonstrate aseptic technique.

Perform peripheral IV insertion using both a straight nee-

*Indicates optional skill.

dle and an over-the-needle catheter device on both adults and, if possible, infants.

Draw blood samples.

Prepare blood samples for blood sugar, electrolytes, type and cross-match, and CBC analysis.

Operating/Recovery Room

During the experience in the operating/recovery room, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

Perform endotracheal intubation.

Perform peripheral IV insertion.

Perform aseptic endotracheal and orotracheal suctioning.

Prepare and administer IV medications and observe effects of pharmacologic agents.

Maintain airway in an unconscious patient using manipulations and position of head, oropharyngeal airways, etc.

Monitor vital signs of an unconscious patient.

Monitor the cardioscope and interpret an EKG, noting any irregularities.

Operate oxygen equipment and assist in the operation of the mechanical respirators.

Observe and assist in the treatment of various soft-tissue and musculoskeletal injuries.

Labor Suite

During the experience in the labor suite, the student should have the opportunity to practice under supervision and demonstrate proficiency for each of the following:

Identify and label the three stages of labor and common complications and abnormal deliveries.

Assist in normal cephalic deliveries.

Observe and assist, if possible, in abnormal deliveries.

Control postpartum hemorrhage by uterine massage and infusion of oxytocin.

Assist in the management of the newborn, including severing the cord, suctioning, etc.

Assist in the resuscitation of the newborn.

Pediatric Unit

During the experience in the pediatric unit, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

- Perform patient assessment including, at a minimum, a review of the patient's chart, taking vital signs, and ausculation of chest sounds.
- Prepare and administer intramuscular and IV medications.
- Monitor intravenous infusions.
- Assist in the mangement of febrile and seizure patients.

Psychiatric Unit

During the experience in the psychiatric unit, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

- Observe the management and assist in the interview of patients with the following disturbances:
  - Suicidal feelings
  - Hostility and violent behavior
  - Acute grief and depression
  - Paranoia
  - Hysterical conversion
  - Alcohol and drug addiction
- Assist in the restraint of combative patients.
- Record the use of drugs used for the treatment of the above-mentioned problems.

Morgue

During the experience in the morgue, the student should have the opportunity to observe the following:

- Basic topographic anatomy; identification, pathogenesis, and causes of death.
- Anatomical basis of endotracheal intubation and cardiopulmonary resuscitation.
- Injuries resulting from trauma; specifically, injuries to soft tissues, the musculoskeletal system, and the internal structures.

Intensive Care Vehicle-Ambulance (ICV-A)**

During the experience on the ICV-A, the student should have the opportunity to practice under direct supervision and demonstrate proficiency for each of the following:

- Perform a patient assessment, including developing a relevant medical history, making pertinent observations of the environment, and doing a pertinent physical examination.
- Maintain airway in unconscious patient using manipulations and positions of head, oropharyngeal airway, etc.
- Perform oxygen administration.
- Perform one-person cardiopulmonary resuscitation.
- Perform peripheral IV insertion.
- Draw blood samples.
- Record and interpret EKG's.
- Prepare and administer intramuscular, subcutaneous, and IV medications.
- Identify and manage patients presenting the following problems:
  - Major trauma to the head/neck, chest, abdomen, spine, and extremities
  - Possible myocardial infarction
  - Congestive heart failure
  - Chronic obstructive pulmonary disease
  - Obstructed airway
  - Diabetic emergencies
  - Asthmatic attack
  - Seizure
  - Coma
  - Obstetric
  - Psychiatric
  - Overdose
  - Intoxication

**In areas where supervised experience on the vehicle is not feasible, it is suggested that the student be fully evaluated during the clinical experience and then serve a probationary period on the vehicle. During the probationary period, each case should be reviewed by the medical director with the EMT. The probationary status should be effective until the medical director is satisfied with the EMT's performance. Although this mechanism is not as acceptable as the direct supervision by a preceptor, in some instances it may be necessary.

Perform endotracheal intubation.
Perform aseptic endotracheal and orotracheal suctioning.
Perform monitored defibrillation.
Apply the MAST in cases of massive lower extremity trauma or shock.
Apply rotating tourniquets in cases of acute heart failure.
Immobilize extremities in cases of fractures or dislocation.
Monitor vital signs and patient status during transport.
Perform spinal immobilization using short and long spine board.
Perform insertion of an esophageal obturator airway.
Relay patient information to the physician in the correct sequence.
Assist in receiving calls and dispatching emergency vehicles.
Relieve tension pneumothorax using a catheter and Heimlich valve.*
Demonstrate the use of a mechanical heart-lung resuscitator.*
Perform a subclavian or internal jugular IV insertion.*
Perform a cricothyroidotomy.*
Perform transtracheal jet insufflation.*
Perform a phlebotomy in cases of chronic heart failure.*
Demonstrate the use of a transthoracic pacemaker.*

COURSE CONTENT OUTLINE

The content outline included in this appendix is a topical outline by module of the training program for the emergency medical technician (EMT)-paramedic. The outline reflects the criteria established for the EMT-paramedic by the Task Force on Emergency Medical Technicians, National Academy of Sciences/National Research Council (NAS/NRC). Also included in this outline are optional skills, indicated by an asterisk (*). These skills are not included in the criteria established by the NAS/NRC Task Force, but have been shown effective in field situations when performed by paramedic personnel. They are included as optional materials for consideration and are not included in the overall scope of the course.

*Indicates optional skill.

TRAINING PROGRAM FOR THE EMERGENCY MEDICAL TECHNICIAN-PARAMEDIC

A. The Emergency Medical Technician, Role, Responsibilities, and Training
   1. Role of the EMT
      1.1. Health professional
      1.2. Health educator
   2. Laws governing the EMT
      2.1. Relevant laws
      2.2. Pertinent definitions
      2.3. Malpractice insurance
      2.4. Records and reporting forms
   3. Orientation to the EMT training program
      3.1. Course content
      3.2. Course format
      3.3. Student requirements
   4. Issues concerning the health professional
      4.1. Medical ethics
      4.2. Death and dying

B. Human Systems and Patient Assessment
   1. Medical terminology
   2. Human systems
      2.1. Study of human systems
      2.2. Systems balance (homeostasis)
      2.3. Basic unit of life—cell
      2.4. Anatomic terminology
      2.5. Tissue
      2.6. The body structure
      2.7. The moving force—muscles
      2.8. Basis for fuel consumption—respiratory system
      2.9. The input system—digestive system
      2.10. Distribution—circulatory system
      2.11. Renal system
      2.12. The control system—nervous system
      2.13. Reproductive system
      2.14. Remote control—the endocrine system
   3. Patient assessment
      3.1. Patient assessment
      3.2. Acquisition of patient history
      3.3. Examination for trauma-related problems
      3.4. Evaluation of diagnostic signs

3.5. Examination of suspected medical problem
3.6. Four components of assessment (order)
3.7. Presenting medical information
4. Clinical experience

C. Shock and Fluid Therapy
1. Fluids and electrolytes
1.1. Body fluids
1.2. Electrolytes
1.3. Osmosis
1.4. Acid-base balance
2. Blood and its components
2.1. The blood
2.2. Components of the blood
2.3. Blood transfusions
3. Disorders of hydration
3.1. Dehydration
3.2. Overhydration
4. Shock
4.1. Shock—causes and types
4.2. Patient assessment for shock
4.3. Clinical signs and symptoms
4.4. General treatment
5. Techniques of management
5.1. Peripheral intravenous (IV) insertion
5.2. Military antishock trousers
5.3.* External jugular, and subclavian IV insertion
6. Clinical experience

D. General Pharmacology
1. Drug information
1.1. Introduction
1.2. Source of drugs
1.3. Drug names
1.4. Drug standards and legislation
1.5. Drug forms
1.6. Physicians' desk reference (PDR)
2. Action of drugs
2.1. Introduction
2.2. Factors that influence actions of drugs
2.3. Terms used to describe drug action

*Indicates optional skill.

2.4. Drugs affecting parts of the body
2.5. Drugs affecting the autonomic nervous system
2.6. General drug information

3. Weights and measures
   3.1. Introduction
   3.2. Systems of measurement
   3.3. The metric system
   3.4. Calculating drug concentrations
4. Administration of drugs
   4.1. Introduction
   4.2. Administration of drugs
   4.3. Safety considerations and procedures
   4.4. Local guidelines
5. Techniques of administration
   5.1. Introduction
   5.2. The syringe and scales
   5.3. Withdrawing medications
   5.4. Routes of administration

E. Respiratory System
1. Anatomy and physiology
   1.1. Anatomical structure
   1.2. Mechanics of respiration
2. Patient assessment
3. Pathophysiology and management
   3.1. Introduction
   3.2. Respiratory depression and respiratory arrest
   3.3. Upper airway obstruction
   3.4. Obstructive airway disease
   3.5. Toxic inhalations and aspirations
   3.6. Near drowning
   3.7. Pulmonary edema
   3.8. Hyperventilation syndrome
   3.9. Pulmonary embolism
   3.10. Chest trauma
4. Techniques of management
   4.1. Oxygen administration
   4.2. Use of adjuncts
   4.3. Demand-valve unit
   4.4. Suctioning
   4.5. Use of nebulizers
   4.6. Direct laryngoscopy
   4.7. Endotracheal intubation

4.8.* Esophageal obturator airway
4.9.* Thoracic decompression
4.10.*Positive-end expiratory pressure
4.11.*Cricothyroidotomy
4.12.*Transtracheal jet insufflation

5. Clinical experience

F. Cardiovascular System

1. Anatomy and physiology
   1.1. Introduction
   1.2. The heart
   1.3. Structure of the heart
   1.4. Circulation through the heart
   1.5. Circulation
   1.6. Heart valves
   1.7. Heart muscle contraction
   1.8. Function of the heart
   1.9. Blood vessels
2. Patient assessment
   2.1. History in the cardiac patient
   2.2. Past medical history
   2.3. Physical examination
3. Pathophysiology and management of cardiovascular problems
   3.1. Introduction
   3.2. Diseases to coronary arteries and other heart problems, including:
      a. Coronary artery disease
      b. Angina
      c. Acute myocardial infarction
      d. Congestive heart failure
      e. Ventricular aneurysm
      f. Cardiac rupture
      g. Cardiogenic shock
      h. Syncope
      i. Myocardial trauma
      j. Acute hypertensive crisis
4. Reading and understanding a normal electrocardiogram (EKG)
   4.1. Introduction

*Indicates optional skill.

4.2. An EKG record
4.3. EKG paper
4.4. Reading an EKG

5. Arrhythmia recognition
   5.1. Introduction
   5.2. Reading arrhythmias, including:
      a. Normal sinus rhythm
      b. Sinus arrhythmia
      c. Sinus bradycardia
      d. Sinus tachycardia
      e. Sinus arrest
      f. Premature atrial contraction
      g. Superventricular tachycardia
      h. Atrial flutter
      i. Atrial fibrillation
      j. First degree block
      k. Second degree block
      l. Third degree block
      m. Premature ventricular contractions
      n. Ventricular fibrillation
      o. Ventricular tachycardia
      p. Asystole
      q. Pacemaker rhythm
6. Techniques of management
   6.1. Introduction
   6.2. Description of drugs
   6.3. EKG monitoring
   6.4. Arrhythmias and treatments
   6.5. Techniques and procedures, including:
      a. Management of cardiac arrest
      b.* Cardioversion
      c.* Rotating tourniquets
      d.* Intracardiac injections
      e.* Mechanical cardiopulmonary resuscitation devices
7. Clinical experience

G. Central Nervous System
   1. Anatomy and physiology

*Indicates optional skill.

2. Patient assessment
   2.1. Introduction
   2.2. History
   2.3. Physical examination (head injury)
   2.4. Physical examination (spinal injury)
3. Pathophysiology and management
   3.1. Head trauma
   3.2. Spinal injury
   3.3. Medical problems
4. Techniques of management
   4.1. Application of traction and cervical collar
   4.2. Complete immobilization of patient
   4.3. Management of diving accidents
   4.4. Use of long spine board and orthopedic stretcher

H. Soft-Tissue Injuries
1. Anatomy and physiology of the skin
2. Patient assessment
3. Pathophysiology and management of soft-tissue injuries
   3.1. Mechanical injuries
   3.2. Burns
4. Techniques of management
   4.1. Dressing and bandaging
   4.2. Controlling external hemorrhage
   4.3. Internal hemorrhage
   4.4. Dressing and bandaging wounds
   4.5. Burns
5. Special considerations in soft-tissue injuries
   5.1. Emergencies involving the eye
   5.2. Emergencies involving face, ear, nose, and throat
   5.3. Injuries to the abdomen
6. Clinical experience

I. Musculoskeletal System
1. Anatomy and physiology
   1.1. The musculoskeletal system
   1.2. Bones
   1.3. Joints
   1.4. Muscles
   1.5. Related pulses
2. Patient assessment
   2.1. Evaluation of a patient

2.2. Mechanisms of injury
2.3. Patient history
2.4. Physical examination
3. Pathophysiology and management
3.1. Fractures
3.2. Dislocations
3.3. Sprains
3.4. Strains
4. Techniques of management
4.1. Splinting and immobilization
4.2. Splints
5. Clinical experience

J. Medical Emergencies
1. Diabetic emergencies
1.1. Diabetic ketoacidosis
1.2. Hypoglycemic reaction
2. Anaphylactic reactions
3. Exposure to environmental extremes
3.1. Heat: heat cramps, heat exhaustion, heat stroke
3.2. Cold: frostbite, general cooling, and hypothermic cardiac arrest
4. Alcoholism and drug abuse
5. Poisoning and overdose
6. Acute abdomen
7. Genitourinary problems
8. Medical emergencies in the geriatric patient
9.* Aquatic emergencies
10.* Techniques of management
10.1.* Nasogastric tube insertion
10.2.* Urinary catheterization

K. Obstetric/Gynecologic Emergencies
1. Anatomy and physiology
1.1. Anatomy of the female reproductive system
1.2. Pregnancy
2. Patient assessment
2.1. Diagnosis of pregnancy
2.2. Gynecologic problems

*Indicates optional skill.

3. Pathophysiology and management of gynecologic emergencies
4. Pathophysiology and management of obstetric emergencies
   - 4.1. Introduction
   - 4.2. Antepartum hemorrhage complications
   - 4.3. Other antepartum complications
   - 4.4. Normal delivery
   - 4.5. Complications of delivery
   - 4.6. Abnormal deliveries
   - 4.7. Other childbirth situations
     - a. Multiple births
     - b. Premature births
   - 4.8. Apgar scoring
5. Techniques of management
6. Clinical experience

L. Pediatrics and Neonatal Transport
1. Approach to the pediatric patient
2. Pathophysiology and management
   - 2.1. Respiratory emergencies
   - 2.2. Sudden infant death syndrome
   - 2.3. Seizures
   - 2.4. The battered child
3. Techniques of management
   - 3.1. Cardiopulmonary resuscitation
   - 3.2. Intravenous techniques
   - 3.3. Endotracheal intubation
4.* Neonatal transport
5. Clinical experience

M. Emergency Care of the Emotionally Disturbed
1. Emotional aspects of illness and injury
   - 1.1. Emotional disturbance
   - 1.2. Responses of the patient
   - 1.3. Responses of the family, friends, or bystanders
   - 1.4. Responses of the paramedic
   - 1.5. Responses to mass casualties
2. Approach to the patient
   - 2.1. Field problems of assessment

*Indicates optional skill.

2.2. Mental status assessment
3. Psychiatric emergencies
3.1. Depression
3.2. Suicide
3.3. Rage, hostility, and violent behavior
3.4. Paranoid reactions
3.5. Phobias
3.6. Hysterical conversion reaction
3.7. Disorganization and disorientation
4. Techniques of management
4.1. Interview techniques
4.2. Violence containment
4.3. Use of local resources
5. Clinical experience

N. Rescue Techniques
(Level of rescue expertise required by the emergency medical technician is left to local option. General guidelines are provided in this module.)

O. Telemetry and Communications
1. EMS communications systems
1.1. System phases
1.2. System components
1.3. Radio communications: voice and telemetry
2. Communications regulations and procedures
2.1. Federal Communications Commission
2.2. Protocols and communications procedures
2.3. Dispatch procedures
2.4. Relaying information to the physician

APPENDIX C: WORK EXPERIENCE: CLINICAL AND FIELD INTERNSHIP

In addition to a minimum of 144 hours of didactic instruction each year, an EMT-A apprentice shall serve a clinical and field internship of not less than 56 hours, and an EMT-P apprentice shall serve a clinical and field internship of at least 156 hours each year.

IN-HOSPITAL TRAINING PROGRAM

Emergency Medical Technician—Ambulance

In-hospital training will consist of observation, demonstration, and participation to the extent permitted by the professional staff. Instruction is designated (1) to demonstrate the importance and benefits of optimal emergency care, efficient transport, and adequate reporting; (2) to emphasize the penalties of inadequate care or improper procedures; (3) to familiarize the student with the equipment used, staffing, operating policies, and procedures of the department; (4) to have ambulance personnel observe procedures in and develop skills in resuscitation, handling the unconscious, management of the mentally disturbed and unruly, and techniques of delivery and care of both the infant and the mother; (5) to keep ambulance personnel abreast of new developments in equipment and emergency care; and (6) to have ambulance personnel engage in disaster drills.

Two consecutive hours of training shall be required at any one period in order to receive credit toward completion of a course in the assigned department.

Responsibility for conduct of this program should be assigned to the staff of the emergency department. The emergency department, operating and recovery rooms, the intensive care unit, the obstetrical department, and the psychiatric department should comprise the training areas.

Emergency Medical Technician—Paramedic

In addition to the repetition of basic anatomy, physiology, pharmacology, and bacteriology covered during the basic EMT-A apprenticeship, emphasis should be directed to pathophysiologic changes and their correction, rather than symptom treatment.

Training should include demonstration, laboratory experience, and actual patient care in the various areas of the hospital. Emphasis should be on the anatomic and pathophysiologic basis of a disease process, reasons for the type of treatment rendered, how this treatment alters the disease process, and autopsy findings in instances where the patient does not survive.

The curriculum should include:

ANIMAL LABORATORY EXPERIENCE

A. Signs, symptoms, correction of:
   1. Airway obstruction, asphyxia, hypoventilation, hypoxia
   2. Ventricular fibrillation, premature ventricular contractions, ventricular standstill
   3. Pneumothorax
      a. Tension
      b. Open
      c. Simple (hazard of converting to tension pneumothorax by administering positive pressure ventilation)
   4. Hemothorax
   5. Cardiac tamponade
B. Expertise in:
   1. Endotracheal intubation
   2. Endotracheal suction
   3. Assisted and controlled ventilation
   4. Venipuncture

CLASSROOM AND LABORATORY

A. Anatomy—didactic, anatomy laboratory, morgue
B. Advanced physiology
   1. Normal
   2. Abnormal
      a. Hypoxia, asphyxia, hypoventilation, complications of oxygen inhalation, decompensated chronic obstructive lung disease
      b. Hypovelemia
      c. Shock
      d. Cranial injuries
      e. Drug overdose
      f. Burns
      g. Coronary occlusion or insufficiency

h. Stroke
i. Diabetes
j. Drowning
k. Electrocution
l. Masked organ damage

C. Bacteriology—principles of infection, asepsis, decontamination
D. Pharmacology
1. Acid/base concepts
2. Common resuscitative drugs, vasoactive agents, antiarrhythmics, alkalizing agents, balanced electrolyte solutions, blood volume expanders
3. Actions of and reactions to common drugs
4. Contraindications for some drugs
E. Fluid volume—relationship to blood pressure, pulse rate, urine output
F. Use and interpretation of cardiac monitor—lead placement, use of lead pad, common artifacts
G. Defibrillation—associated equipment dangers
H. Hypodermic injections—as different from intravenous
I. Intravenous injections—syringe, tubing, needle sizes, dynamics of flow, site selection, volume indications and restrictions
J. Pacemakers
K. Sterile techniques
L. Isolation techniques
M. Use and maintenance of approved mechanical equipment
N. Common problems and pitfalls associated with the use of equipment (Understanding of tank color coding, pin indexing, reducing yoke installation)
O. Unacceptable equipment and why—respirators, airways, etc.
P. Personnel management
Q. Logistics management
R. Concepts of coordinated disaster response
S. Protection—from noxious liquids and gases, radiation, mechanical, and electric hazards
T. Communication techniques—radio, telephone, verbal and written reports, telemetry of physiologic data
U. Teaching techniques and methods—lecture, audio-visual, examinations
V. Principles of extrication and patient handling

HOSPITAL DEPARTMENTS—EXPERIENCE TO BE GAINED IN:

A. Anesthesiology
   1. Vital and diagnostic signs—recognition and significance
   2. Airway control techniques in apneic and breathing patients, tracheal intubation, suctioning
   3. Positive pressure ventilation devices—manual and mechanical
   4. Injections—intravenous, intramuscular, subcutaneous
   5. Intravenous fluids
   6. Electrocardiogram and electroencephalogram patterns
   7. Loss of protective reflexes
   8. Management of unconscious patient

B. Recovery room
   1. Management of unconscious patient
   2. Respiratory care, including airway control, oxygenation, ventilation, airway humidification techniques
   3. Vital and diagnostic signs
   4. Central venous pressure monitoring concepts
   5. Drainage systems—gastric, bladder, pleural
   6. Nursing skills, such as transfer of patients with dressings and drains

C. Intensive care and coronary care
   1. Monitors—cardioscope, others
   2. Defibrillation
   3. Pacemakers
   4. Intravenous fluids and medications
   5. Long-term ventilation problems, intermittent positive pressure breathing (IPPB), care and maintenance of equipment
   6. Vital and diagnostic signs
   7. Use of drugs
   8. Electrocardiogram—basic patterns
   9. Cardiopulmonary resuscitation
   10. Equipment hazards
   11. Electroencephalograph—brain death, possible organ donor
   12. Fluid intake, output

D. Surgery
   1. Sterile techniques

2. Anatomy and physiology
3. Wound care
4. Dressings

E. Orthopedics
1. Immobilization techniques
2. Wound care

F. Neurosurgery
1. Unconsciousness
2. Paralysis
3. Wound care

G. Obstetrics, nursery, and pediatrics
1. Delivery and postdelivery care
a. Placenta
b. Hemorrhage
c. Perineal damage
d. Monitoring of fetal heart tones
2. Care of newborn
a. Handling of the infant—head support, etc.
b. Airway ventilation and oxygenation problems
c. Umbilical cord
d. Temperature control
e. Cardiopulmonary resuscitation

H. Emergency department
1. Application of principles of emergency care
2. Critique for evaluation of good and poor emergency care at the scene with follow-up in hospital

MORGUE—OBSERVATION OF AUTOPSIES FOR:

A. Basic topographic anatomy
B. Conditioning to open wounds, trauma
C. Anatomic basis of endotracheal intubation
D. Cause of death from trauma
E. Complications of cardiac compression
F. Fractures and associated injuries—emphasis on nerve and vessel damage

FIELD TRAINING PROGRAM

Field training internship for an EMT-A apprentice shall consist of the apprentice serving as an extra person, and in a student capacity, on an ambulance vehicle under the supervision of a physician or nurse qualified in emergency medicine.

Field training internship for an EMT-P apprentice shall consist of the apprentice serving as an extra person, and in a student capacity, on an intensive care vehicle under the supervision of a physician or nurse qualified in emergency medicine.

On-the-Job Training

On-the-job training for an EMT-A apprentice shall consist of the apprentice serving as an EMT crewman on an ambulance vehicle under the supervision of a journeyman EMT-A or EMT-P.

On-the-job training for an EMT-P apprentice shall consist of the apprentice serving as an EMT crewman on an intensive care vehicle under the supervision of a journeyman EMT-P.

U.S. DEPARTMENT OF LABOR • Employment and Training Administration
Bureau of Apprenticeship and Training

APPRENTICESHIP AGREEMENT BETWEEN APPRENTICE AND JOINT APPRENTICESHIP COMMITTEE

CHECK APPROPRIATE BOX:
☐ Vietnam-era Veteran ☐ Other Veteran ☐ Nonveteran

PRIVACY ACT STATEMENT

The information requested herein is used for apprenticeship program assistance purposes and may not be otherwise disclosed without the express permission of the undersigned apprentice.

Privacy Act of 1974 : P.L. 93-579

THIS AGREEMENT, entered into this *(date)* ..... day of ..... 19 .....

between the parties to *(Name of local apprenticeship standards)* .....

.....

represented by the Joint Apprenticeship Committee, hereinafter referred to as the COMMITTEE, and

(Name of Apprentice) ....., born *(Month, Day, Year)* .....

..... hereinafter referred to as the APPRENTICE, and (if a minor) *(Name of parent or (guardian)* ..... hereinafter referred to as the GUARDIAN.

WITNESSETH THAT:

The Committee agrees to be responsible for the selection, placement, and training of said apprentice in the trade of .....

.....

as work is available, and in consideration said apprentice agrees diligently and faithfully to perform the work of said trade during the period of apprenticeship, in accordance with the regulations of the Committee. The apprenticeship standards referred to herein are hereby incorporated in and made a part of this agreement.

This AGREEMENT may be terminated by mutual consent of the signatory parties, upon proper notification to the registration agency.

SIGNATURE OF APPRENTICE

ADDRESS *(Number, Street, City, State, ZIP Code)*

SIGNATURE OF PARENT OR GUARDIAN

SIGNATURE OF JOINT APPRENTICESHIP COMMITTEE, CHAIRPERSON

SIGNATURE OF JOINT APPRENTICESHIP COMMITTEE, SECRETARY

NAME OF REGISTRATION AGENCY

SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL

DATE *(Month, Day, Year)*

TRAINING DATA

APPRENTICESHIP TERM	PROBATIONARY PERIOD
CREDIT *(By previous trade experience)*	TERM REMAINING

TO BE COMPLETED BY THE APPRENTICE

SEX ➡ *(Check one)*
☐ Male
☐ Female

RACE/ ETHNIC GROUP ➡ *(Check one)*
☐ Caucasian/White
☐ Negro/Black
☐ Oriental
☐ American Indian
☐ Spanish American
☐ Information Not Available
☐ Not Elsewhere Classified

HIGHEST EDUCATION LEVEL ➡ *(Check one)*
☐ 8th grade or less
☐ 9th grade or more
☐ 12th grade or more

GPO 000-000

ETA 8-111
Jan. 1970

U.S. DEPARTMENT OF LABOR • Employment and Training Administration
Bureau of Apprenticeship and Training

APPRENTICESHIP AGREEMENT
BETWEEN
APPRENTICE AND EMPLOYER

CHECK APPROPRIATE BOX:

☐ Vietnam-era Veteran ☐ Other Veteran ☐ Non-veteran

PRIVACY ACT STATEMENT

The information requested herein is used for apprenticeship program statistical purposes and may not be otherwise disclosed without the express permission of the undersigned apprentice.

Privacy Act of 1974 : P.L. 93-579

The employer and apprentice whose signatures appear below agree to these terms of apprenticeship.

The employer agrees to the nondiscriminatory selection and training of apprentices in accordance with the Equal Opportunity Standards stated in Section 30.3 of Title 29 Code of Federal Regulations, Part 30; and in accordance with the terms and conditions of the *(Name of Apprenticeship Standards)* _____ which are made a part of this agreement.

The apprentice agrees to be diligent and faithful in learning the trade in accordance with this agreement.

This AGREEMENT may be terminated by mutual consent of the parties, citing reason(s), with notification to the Registration Agency.

NAME OF APPRENTICE *(Type or Print)*

SIGNATURE OF APPRENTICE

ADDRESS *(Number, Street, City, State, ZIP Code)*

SIGNATURE OF PARENT OR GUARDIAN

NAME OF EMPLOYER AND ADDRESS *(Company)*

SIGNATURE OF AUTHORIZED COMPANY OFFICIAL

APPROVED BY JOINT APPRENTICESHIP COMMITTEE

SIGNATURE OF CHAIRPERSON OR SECRETARY | DATE

REGISTERED BY *(Name of Registration Agency)*

TRAINING DATA

Trade	Apprenticeship Term
Probationary Period	Credit for previous experience
Term remaining	Date apprenticeship begins

TO BE COMPLETED BY THE APPRENTICE

DATE OF BIRTH *(Month, Day, Year)* ➡

SEX *(Check one)* ➡ ☐ Male ☐ Female

RACE/ETHNIC GROUP *(Check one)* ➡
☐ Caucasian/White
☐ Negro/Black
☐ Oriental
☐ American Indian
☐ Spanish American
☐ Information Not Available
☐ Not Elsewhere Classified

HIGHEST EDUCATION LEVEL *(Check one)* ➡
☐ 8th grade or less
☐ 9th grade or more
☐ 12th grade or more

SIGNATURE OF AUTHORIZED OFFICIAL | DATE *(Mo., Day, Yr.)*

GPO xxx-xxx

ETA 671B
Jan. 1976

United States Department of Labor

Bureau of Apprenticeship and Training

Certificate of Registration

Issued in recognition of the above apprenticeship system, registered as part of the National Apprenticeship Program, in accordance with the standards recommended by the

Federal Committee on Apprenticeship

_____ _____

_____ _____

_____ _____

Certificate of Completion of Apprenticeship

United States Department of Labor

Bureau of Apprenticeship and Training

1937 The National Apprenticeship Program 40th Year 1977

This is to certify that

has completed an apprenticeship in the trade of

under sponsorship of

in accordance with the standards recommended by the
Federal Committee on Apprenticeship

_____ _____

_____ _____

_____ _____

_____ _____

STATE AND TERRITORIAL APPRENTICESHIP AGENCIES

Apprenticeship Services
Department of Economic Security
P.O. Box 6123
Phoenix, Ariz. 85005

Division of Apprenticeship Standards
Department of Industrial Relations
455 Golden Gate Avenue
P.O. Box 603
San Francisco, Calif. 94102

Colorado Apprenticeship Council
State Centennial Building
1313 Sherman Street, Room 423
Denver, Colo. 80203

Apprentice Training Division
Labor Department
200 Folly Brook Boulevard
Wethersfield, Conn. 06109

Delaware State Apprenticeship and Training Council
Department of Labor and Industrial Relations
618 North Union Street
Wilmington, Del. 19805

District of Columbia Apprenticeship Council
605 G Street, NW
10th Floor
Washington, D.C. 20005

Bureau of Apprenticeship
Florida Department of Commerce
1321 Executive Center Drive
Tallahassee, Fla. 32301

Apprenticeship Division
Department of Labor and Industrial Relations
825 Mililani Street
Honolulu, Hawaii 96813

Apprentice Training Division
Kansas Apprenticeship Council
Department of Labor
401 Topeka Boulevard
Topeka, Kans. 66603

Kentucky State Apprenticeship Council
Capital Plaza Tower, 12th Floor
Frankfort, Ky. 40601

Division of Apprenticeship
Department of Labor
1001 Land and Natural Resources Building
Baton Rouge, La. 70804

Maine Apprenticeship Council
Department of Labor and Industry
State Office Building
Augusta, Maine 04330

Maryland Apprenticeship and Training Council
Department of Labor and Industry
203 East Baltimore Street, Room 1109
Baltimore, Md. 21202

Division of Apprentice Training
Department of Labor and Industries
State Office Building
Government Center
100 Cambridge Street
Boston, Mass. 02202

Division of Voluntary Apprenticeship
Department of Labor and Industry
Space Center Building, 5th Floor
444 Lafayette Road
St. Paul, Minn. 55101

Montana State Apprenticeship Council
Division of Labor Standards
1331 Helena Avenue
Helena, Mont. 59601

Nevada Apprenticeship Council
Department of Labor
Capital Complex
Carson City, Nev. 89701

New Hampshire Apprenticeship Council
Department of Labor
1 Pillsbury Street
Concord, N.H. 03301

New Mexico Apprenticeship Council
Labor and Industrial Commission
Suite 212
2340 Menaul NE.
Albuquerque, N. Mex. 87101

Bureau of Apprentice Training
Department of Labor
The Campus Building No. 12
Albany, N.Y. 12226

Division of Apprenticeship Training
Department of Labor
Raleigh, N.C. 27602

Ohio State Apprenticeship Council
Department of Industrial Relations
2323 West Fifth Avenue, Room 250
Columbus, Ohio 43216

Apprenticeship and Training Division
State Office Building, Room 448
1400 SW Fifth Street
Portland, Oreg. 97201

Pennsylvania Apprenticeship and Training Council
Department of Labor and Industry
Labor and Industry Bldg., Room 1547
Harrisburg, Pa. 17120

Apprenticeship Division
Department of Labor
414 Barbosa Avenue
Hato Rey, P.R. 00917

Rhode Island Apprenticeship Council
Department of Labor
235 Promenade Street
Providence, R.I. 02908

Utah Apprenticeship Council
#29 East 2100 South, Suite 104
Salt Lake City, Utah 84115

Vermont Apprenticeship Council
Department of Industrial Relations
State Office Building
Montpelier, Vt. 05602

Division of Apprenticeship Training
Department of Labor and Industry
P.O. Box 1814
Ninth Street Office Building
Room 334
Richmond, Va. 23214

Director of Apprenticeship and Training
Department of Labor
Christiansted, St. Croix, V.I. 00820

Apprentice Division
Department of Labor and Industries
318 East Fourth Avenue
Olympia, Wash. 98504

Department of Apprenticeship and Training
P.O. Box 2209
Madison, Wis. 53701

All agencies, with the exception of Kansas, operate under apprenticeship and/or training laws enacted by the legislature. The agency in Kansas functions under executive order of the Governor.

ONE—
SYSTEM CONSULTANTS—1112—(21 & 103)—

BUREAU OF APPRENTICESHIP AND TRAINING REGIONAL OFFICES

Location	States Served	
Region I JFK Federal Bldg., Room 1001 Goverment Center Boston, Mass. 02203	Connecticut Maine Massachusetts	New Hampshire Rhode Island Vermont
Region II 1515 Broadway, Room 3731 New York, N.Y. 10036	New Jersey New York	Puerto Rico Virgin Islands
Region III P.O. Box 8795 Philadelphia, Pa. 19101	Delaware Maryland Pennsylvania	Virginia West Virginia
Region IV 1371 Peachtree Street, NE., Room 700 Atlanta, Ga. 30309	Alabama Florida Georgia Kentucky	Mississippi North Carolina South Carolina Tennessee
Region V Federal Bldg., Room 1, Fourth Floor 230 South Dearborn Street Chicago, Ill. 60604	Illinois Indiana Michigan	Minnesota Ohio Wisconsin
Region VI 555 Griffin Square Bldg. Griffin & Young Streets, Room 858 Dallas, Tex. 75202	Arkansas Louisiana New Mexico	Oklahoma Texas
Region VII Federal Office Bldg., Room 1100 911 Walnut Street Kansas City, Mo. 64106	Iowa Kansas	Missouri Nebraska
Region VIII Federal Bldg., Room 16440 1961 Stout Street Denver, Colo. 80202	Colorado Montana North Dakota	South Dakota Utah Wyoming
Region IX 450 Golden Gate Avenue, Room 9008 P.O. Box 36017 San Francisco, Calif. 94102	Arizona California	Hawaii Nevada
Region X Federal Office Bldg., Room 8014 909 First Avenue Seattle, Wash. 98174	Alaska Idaho	Oregon Washington

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